STATUS OF THE FISH & WILDLIFE RESOURCE IN ALBERTA

Alberta Fish & Wildlife

Status of the Fish and Wildlife Resource in Alberta

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A Message from The Honourable Don Sparrow

In a recent public survey, eighty-six per cent of Albertans reported that maintaining abundant wildlife was important to them in order to satisfy a wide range of public benefits and interests. Your Government responded to this public view with the ratification of the **Fish and Wildlife Policy for Alberta** in October 1982. One of the commitments to the people of Alberta reflected in the Policy was that the Minister responsible for fish and wildlife would make a periodic declaration on the status of the fish and wildlife resource. I am proud to present the first such declaration.

Because wildlife populations change continually, it must be recognized that the numbers presented in this report will, to some degree, be outdated the moment they are printed. However, the value of these numbers lies more in presenting a proper context of what existed in the past and, in particular, for establishing goals for the future. The availability and quality of the wildlife information used in preparing this report should provide an honest reflection of what we do and do not know about the wildlife found in Alberta. As such, this declaration statement will be used to provide future program and policy direction to the Fish and Wildlife Division and the Government as a whole, with respect to providing a secure future in the Province for this vital resource.

The province's fish and wildlife resource is extremely important to our ecosystem, environment, culture, recreation, and economic values, therefore, the Government of Alberta is sincerely interested in obtaining your understanding and support in securing a place for fish and wildlife resources in Alberta for present and future generations. Toward this end, I urge each of you to study this document and share your views with us in order that the next declaration statement reflects even greater sensitivity to the needs and interests of all Albertans and, above all, further secures the future of our wildlife heritage.

Don Sparrow
Associate Minister
of Public Lands and Wildlife

October 1984

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Overview

Overview

Purpose of this Document:

On October 14, 1982 the Government of Alberta made public the Fish and Wildlife Policy for Alberta which, among other matters, established:

1. That the primary consideration of the Government is to ensure that fish and wildlife populations are protected from severe decline and that viable populations are maintained.
2. That the resources will be managed on the basis of public benefits to be gained by such management.
3. The Minister responsible for wildlife will periodically make a declaration of:
   a. The present resource status, allocation and use.
   b. Future issues and projected resource demands.
   c. How the government plans to deal with these demands and issues.

The purpose of this document is to provide the basis for the Minister to make that declaration. The document, therefore, establishes the Government's assessment of the current (1980) status of fish and wildlife in Alberta; provides a historical perspective; and projects into the future (Year 2000). It acknowledges that management for public benefit ranges from acknowledging the inherent right of a species to exist, to managing a species for recreational or commercial uses such as viewing, fishing, hunting or trapping. It also acknowledges that the foundation for this management is the quantity and quality of the land and water base — the habitat (food, water, shelter) — and the maintenance of healthy, productive animals.

This document also represents the initial steps towards:

1. Transforming the Fish and Wildlife Policy into specific public benefits, goals and objectives which in turn will be addressed through detailed species management plans and associated government programming.
2. Comprehensive fish and wildlife habitat planning to achieve fisheries and wildlife resource supply requirements necessary to meet the stated public benefits.

This assessment is based on the best available knowledge in 1980 and includes estimates. Some estimates are more subjective than others; also, some species are cyclic or subject to broad fluctuations, and the population status must be interpreted in terms of normal expectations. Therefore, some of the information may change as better knowledge is accumulated. Toward this and consistent with policy direction, this document will be reviewed and updated periodically. Comments are welcome and will aid in revision.

Current Status of Fish and Wildlife in Alberta

Checklists held at the Provincial Museum of Alberta list about 90 species of resident mammals, 250 species of resident breeding birds, 50 species of fish and 20 species of reptiles and amphibians. The number of animals per species resident in Alberta in 1980, for which populations are known, is given in Table 1. Species which are considered to be endangered, threatened, rare or extirpated by the Committee on the Status of Endangered Wildlife in Canada[4] are listed in Table 2.

Current Use of Fish and Wildlife in Alberta

The fish and wildlife resource is an important resource which benefits all Albertans, either directly or indirectly. For the sake of discussion, this use is divided into three categories: indirect use (social use), including "ecological use" or the inherent right of fish and wildlife to exist in and of themselves as part of the ecosystem; direct recreational use; and both direct and indirect economic use. The social, recreational and economic value of these uses and the costs of managing this resource are presented in Table 3. Figure 1 presents an overview of where Albertans currently enjoy benefits from fish and wildlife resources. Figure 2 compares Albertan attitudes towards wildlife, and participation in viewing and hunting activities with the other provinces in Canada.

Projected Use

Projections for future use of the fish and wildlife resource are based on the assumption that past and current trends will continue for the next 20 years. On that basis, viewing and fishing continue to increase at a greater rate than human population growth while hunting increases at or slightly less than the same rate. Alberta's human population is predicted to grow from about two million in 1980 to over three million in the year 2000[12]. However for most species, increased demand for a species is simply a theoretical factor to consider, since the limiting factor is not the demand (use), rather it is the supply of habitat.

Preferences

An indication of Albertans preferences for species, which are important to them for all uses (social, recreational and economic), was obtained through a 1976 survey of Albertans living in 689 representative households[1], and from the 1980 Sports Fishing Questionnaire of Canada[2]. These preferences are listed in Table 4.

Future Directions

Three long-range goals are listed for each species: population goals (numbers of animals), public-use goals (human-use patterns), and habitat goals (land/water base). All goals are established by first determining the realistic optimum population level for the land/water base, having considered other users; and then by considering the uses or benefits to be derived. Two examples may illustrate the process.

Example 1.
Pronghorn Antelope

- The carrying capacity of the present range is 10 000 to 18 000 animals. The limiting factors are the size (3 037 square kilometres/1 173 square miles) and quality of the winter range.
- Albertans want more antelope, both for viewing and hunting. Pronghorn are also important to other Canadians since only Saskatchewan and Alberta have them.
- What are the options?
  1) Expand the size of the present range.
     This option is not realistic considering the demand for the land base by other users.
  2) Improve the quality of the present range.
     This option has some potential on a local basis.
  3) Transplant to other ranges.
     Pronghorns need sagebrush associated with shortgrass prairie which are not available in adequate supplies in other parts of Alberta.
  4) Let the herds increase at will.
     This is an option only if the pronghorn and its natural predators are free to range where they wish. Since this does not occur, it would be foolish to court a disaster such as occurred during the 1964-65 winter. At that time the herd diminished through starvation from 24 000 to 8 500 animals because population size had been allowed to increase beyond the carrying capacity of the range.
  5) Maintain the present carrying capacity of the range but try to increase both viewing opportunities and recreational hunting opportunities through changes in user patterns and habitat enhancement where possible.
     This is the preferred direction.

Example 2.
Trout

- The present natural habitat can sustain a harvest of about 1 000 000 catchable-size trout a year.
- Albertans and non-Albertans (tourists) want more trout.
- What are the options?
  1) Find or develop additional water which will produce naturally-reproducing trout.
     The possibilities are limited and expensive, though some potential exists.
  2) Increase the quality of the present habitat.
     This is possible but expensive, though some potential exists.
  3) Maintain the overall quantity (about 20 000 kilometres/12 000 miles) and quality of the present habitat.
     This is possible but industrial, domestic, recreational and other users can affect both quality and quanity of habitat.
  4) Raise trout in various sizes in the hatchery and stock all suitable water.
     Stocking is expensive and the percentage of return to creel of stocked fish is relatively low. This may be improved under certain circumstances.
  5) Encourage changes in user habits; for example, more catch-and-release streams.
  6) Do all of the above with emphasis on the option which will return the most satisfaction for time and money spent.
     This is the preferred direction.

Table 1. **Estimated 1980 Animal Populations**[3]

Species

Estimated Harvestable Surplus

[redacted]

Estimated Total Winter Population

[redacted]

Estimated Total Breeding Population

[redacted]

Table 2. **Endangered, Threatened or Rare Species:** In Canada, which are resident in Alberta, as Designated by the Committee on the Status of Endangered Wildlife in Canada.[4]

Status **Birds**

[redacted]

Status **Mammals**

[redacted]

1. Endangered Species: Any indigenous species of fauna or flora whose existence in Canada is threatened with immediate extinction through all or a significant portion of its range, owing to the action of man.
2. Threatened Species: Any indigenous species of fauna or flora that is likely to become endangered in Canada if the factors affecting its vulnerability do not become reversed.
3. Rare Species: Any indigenous species of fauna or flora that, because of its biological characteristics, or because it occurs at the fringe of its range, or for some other reason, exists in low numbers or in very restricted areas in Canada but is not a threatened species.
4. Extirpated Species: Any indigenous species of fauna or flora no longer existing in the wild in Canada but existing elsewhere.

* Currently under consideration for re-introduction.
** Currently being re-introduced by Alberta Fish and Wildlife Division of Energy and Natural Resources and the Canadian Wildlife Service.

Table 3. **Social, Recreational, Economic Values and the Cost of the Fish and Wildlife Resource to Albertans in 1980-81.**

	Per Cent (%)	Total Days	$ Spent/ Earned
1. Social Value/Attitude			
[redacted]	[redacted]	[redacted]	[redacted]
2. Recreation Value			
a) Viewing			
[redacted]	[redacted]	[redacted]	[redacted]
b) Fishing			
[redacted]	[redacted]	[redacted]	[redacted]
c) Hunting			
[redacted]	[redacted]	[redacted]	[redacted]
Total		15 200 000[1]	755 000 000

Table 3 Continued

	Per Cent (%)	Total Days	$ Spent/ Earned
3. Economic Value			
a) As Food			
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
b) As A Livelihood			
i) Trapping			
[redacted]	[redacted]	[redacted]	[redacted]
ii) Commercial Fishing			
[redacted]	[redacted]	[redacted]	[redacted]
iii) Guides and Outfitters			
[redacted]	[redacted]	[redacted]	[redacted]
iv) Tourist Industry			
[redacted]	[redacted]	[redacted]	[redacted]
v) Regional Economic Demand			
[redacted]	[redacted]	[redacted]	[redacted]
Total	**Minimum $63 000 000 plus Tourism**		

Table 3 Continued

	Per Cent (%)	Total Days	$ Spent/ Earned
4. Costs			
[redacted]	[redacted]	[redacted]	[redacted]
Total			Minimum $20 000 000 (1980)

Table 4. Species Preference by Albertans for All Uses
(Social, Recreational, Economic)[1,2]

Fish

[redacted]

Mammals

[redacted]

Birds

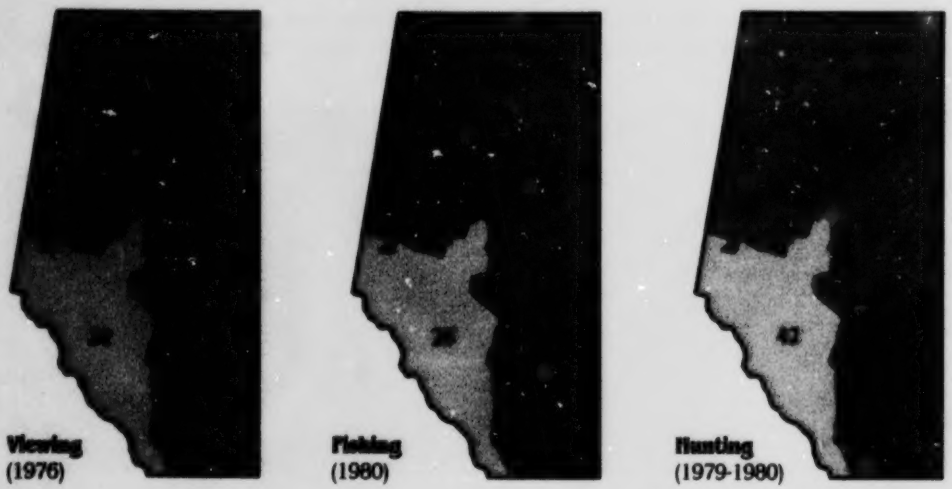
[redacted]

Reptiles and Amphibians

[redacted]

Figure 1. **Recreational and Commercial Use of the Fish and Wildlife Resource (Alberta)**
Numbers represent the per cent of use in each area.

Recreation Days (Per Combined Ecoregion)



Harvest (Per Fish and Wildlife Administrative Region)

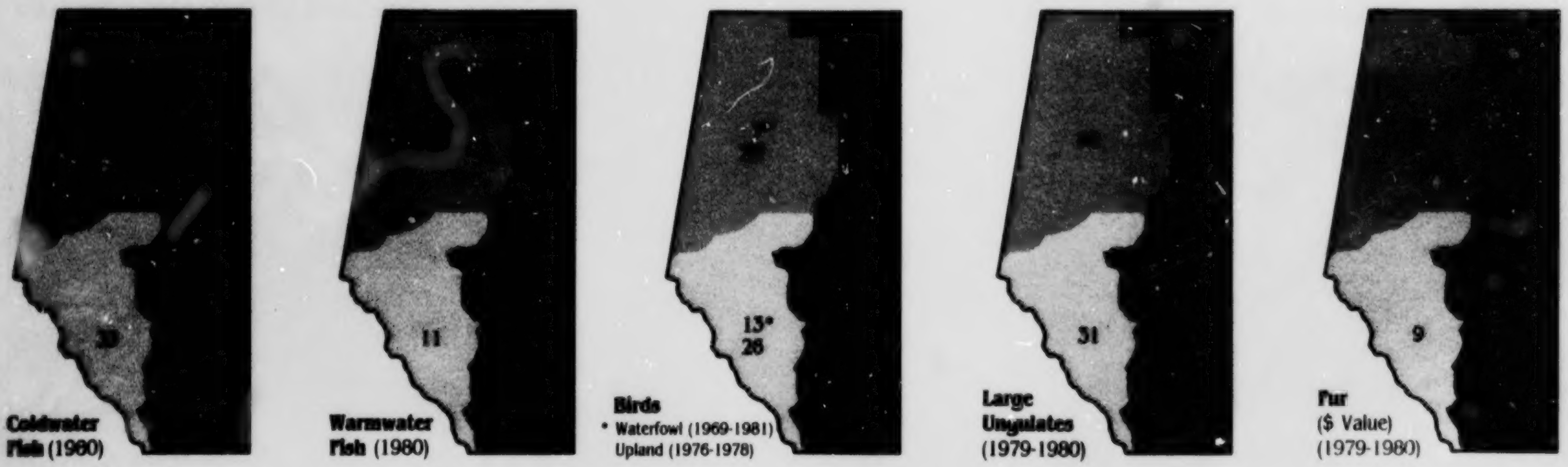
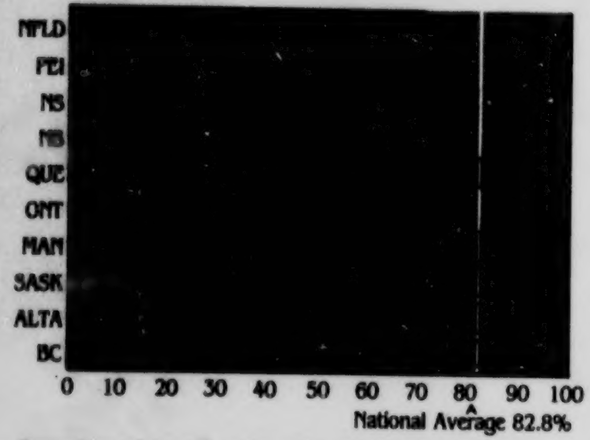


Figure 2. The Importance of Wildlife to Canadians

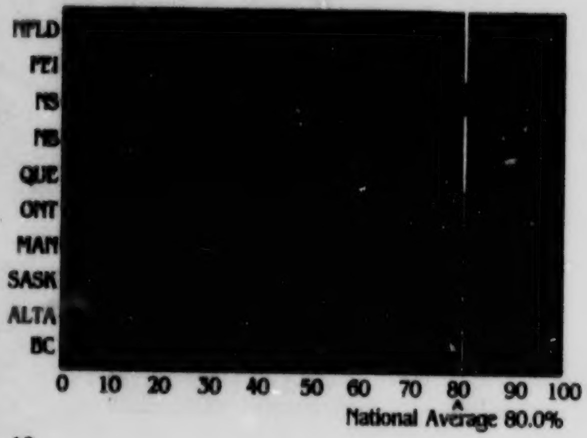
(from "The Importance of Wildlife to Canadians", 1981)

a) ...Attitudes

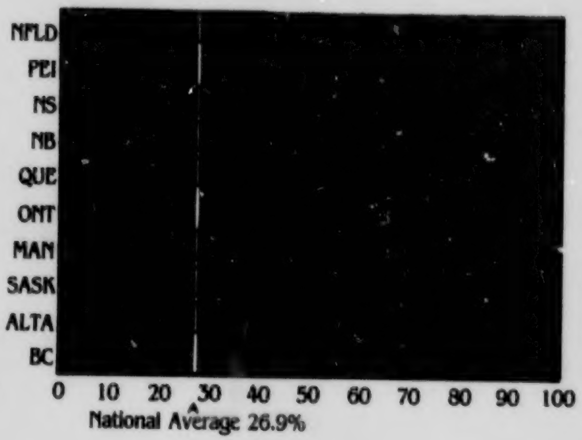
Percentage of Canadians Expressing Great or Some Interest in Participating in One or More Non-Consumptive Wildlife-Related Activities in 1981, by Province of Residence



Percentage of Canadians Reporting Maintaining Abundant Wildlife to be Very or Fairly Important in 1981, by Province of Residence

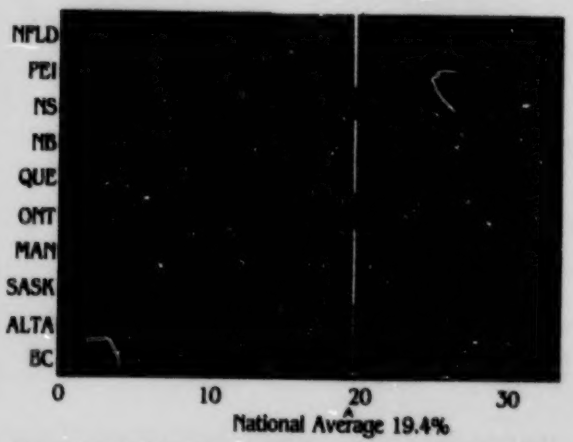


Percentage of Canadians Expressing Great or Some Interest in Participating in One or More Consumptive Wildlife-Related Activities in 1981, by Province of Residence

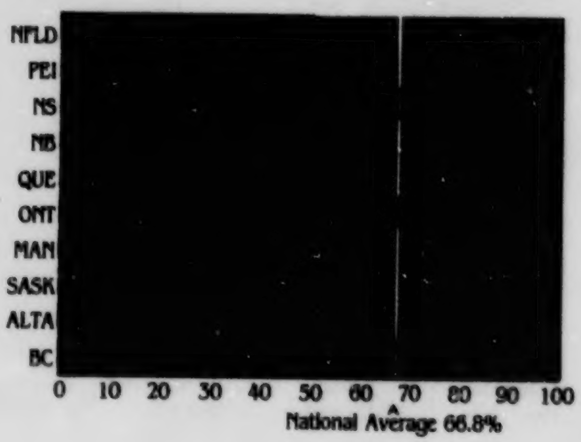


b) ...Viewing

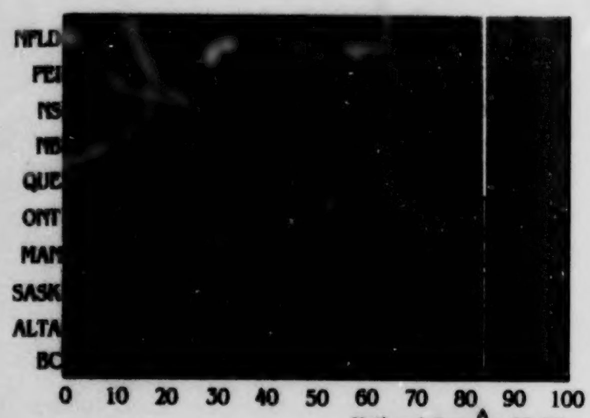
Percentage of Canadians Participating in Primary Non-Consumptive Wildlife-Related Trips or Outings in 1981, by Province of Residence



Percentage of Canadians Participating in Non-Consumptive Residential Wildlife-Related Activities in 1981, by Province of Residence

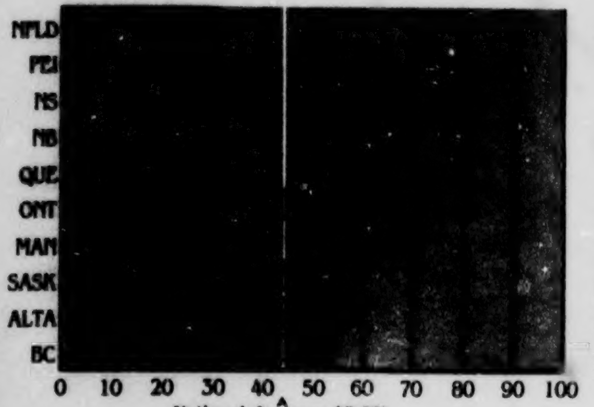


Percentage of Canadians Participating in Indirect Wildlife-Related Activities in 1981, by Province of Residence



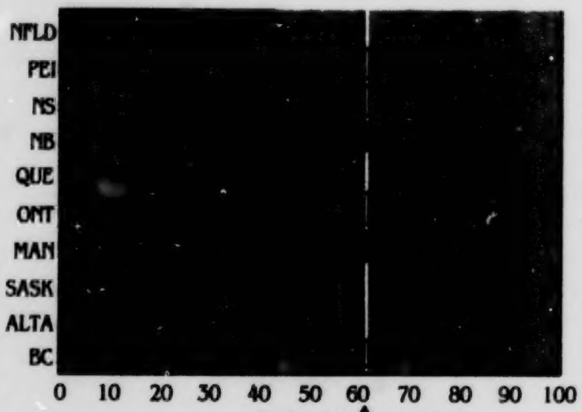
National Average 83.8%

Percentage of Canadians Encountering Wildlife Incidentally During Other Trips or Outings in 1981, by Province of Residence



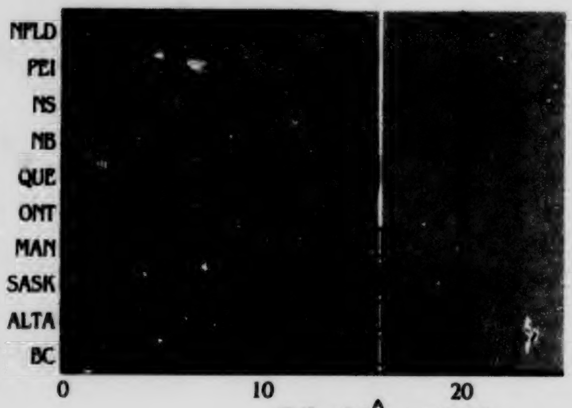
National Average 43.9%

Average Number of Days on Which Participants Engaged in Residential Wildlife-Related Activities in 1981, by Province of Residence



National Average 61.2%

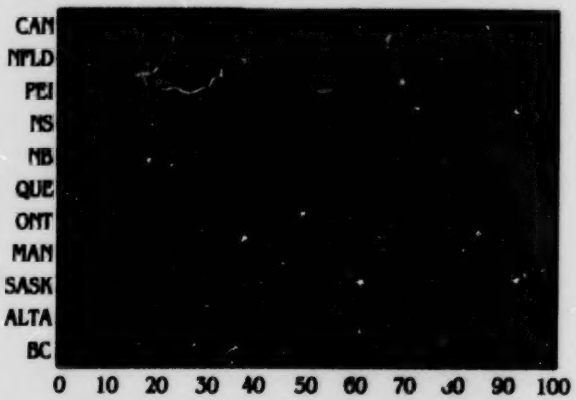
Average Number of Days on Which Participants Engaged in Primary Non-Consumptive Trips or Outings in 1981, by Province of Residence



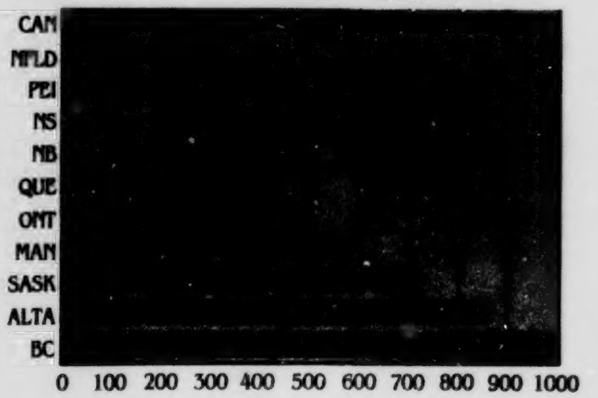
National Average 15.8%

Average Expenditures per Participant for Primary Non-Consumptive Wildlife-Related Trips or Outings in 1981, by Province of Residence

Average Daily Expenditures
Dollars

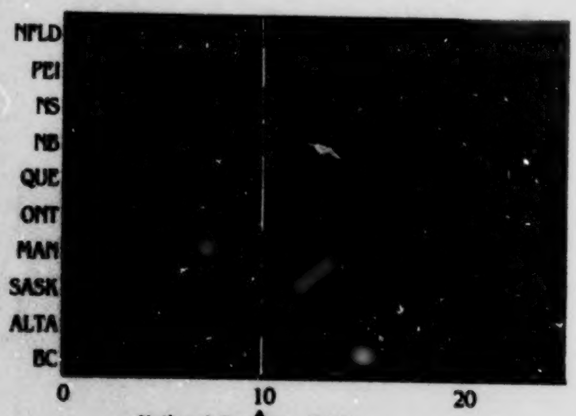


Average Yearly Expenditures
Dollars

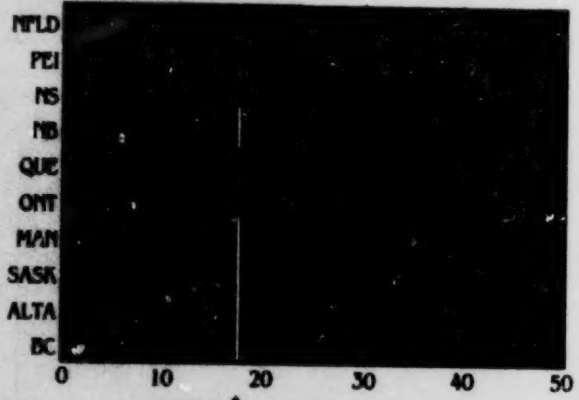


c) ...Hunting

Percentage of Canadians Participating in Hunting Wildlife in 1981, by Province of Residence

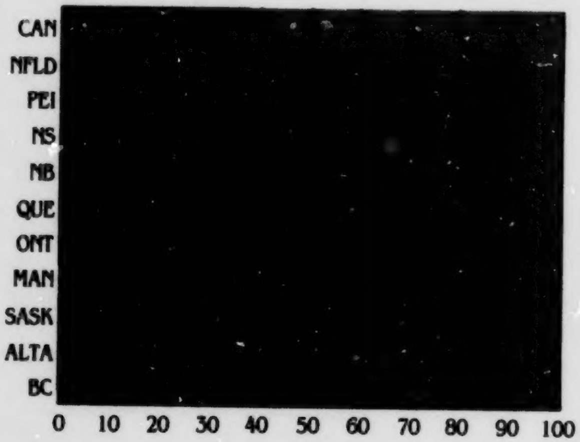


Average Number of Days on Which Participants Engaged in Hunting Wildlife in 1981, by Province of Residence

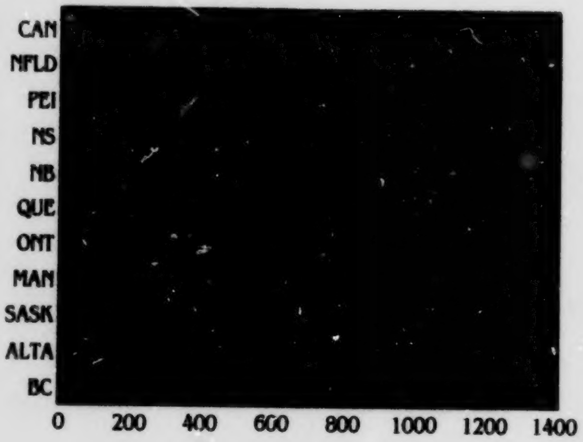


Average Expenditure per Participant for Hunting Wildlife in 1981, by Province of Residence

Average Daily Expenditures
Dollars



Average Yearly Expenditures
Dollars



Footnotes

1 Phillips, W., D. Depage and L. Ewanyk, *Socio-Economic Evaluation of the Recreational Use of Fish and Wildlife Resources in Alberta,* 1977.

2 *The Sport Fishery in Alberta: Facts and Figures for 1975 and 1980,* Fisheries Management Report No. 28 (Edmonton: Alberta Energy and Natural Resources, Fish and Wildlife Division, 1983).

3 Alberta Fish and Wildlife Division personnel estimates.

4 The Committee on the Status of Endangered Wildlife in Canada, 1982.

5 *The Importance of Wildlife to Canadians, 1981,* National Survey Canada, Supply and Services Canada, Ottawa, 1983.

6 *Alberta Energy and Natural Resources Annual Report, March 31st, 1980.*

7 The significance of this can be seen when measured against other types of outdoor recreation such as downhill skiing which supplied about 1.0 million days of recreation in 1980/81.

8 Alberta Licenced Guides, Outfitters, Fur Dealers, Furriers, Commercial Fish Farms, Class A Game Bird Farms, 1980 Season, Alberta Energy and Natural Resources, Fish and Wildlife Division.

9 Contribution of Hunters/Fishermen to the Alberta Accommodation Industry, Alberta Tourism and Small Business, 1982.

10 Varricchio, G., *An Assessment of the Guiding Industry — Peace River Region,* Alberta Tourism and Small Business, 1982.

11 Data sources — viewing (see footnote #1), fishing (see footnote #2), hunting - big game survey 1979-80, upland bird survey - 1976-78, waterfowl survey - 1969-81, fur dealer returns - 1979-80; Fish and Wildlife Division.

12 Alberta Bureau of Statistics, Alberta Treasury; Population Projections, Alberta 1977-2006 and Population Projections, Alberta 1982-2011.

Species Status

Introduction

Part 2 presents status reports for individual species or species groups. The status of those species which require active management is discussed in detail in this section. The status of the many other species which require less active management to maintain viable populations is presented in less or no detail. Species requiring active management include those classified as endangered, threatened or rare, those considered vulnerable and certain species for which regulated use is permitted.

The information presented in the user graphs associated with individual species is limited to licenced users. Quantifiable data regarding unlicenced users (e.g. viewers, "ecological use") is not available at this time.

Endangered, Threatened or Rare

Whooping Crane

Endangered

Overview and History

Whooping crane are listed as threatened in Canada by the Committee on the Status of Endangered Wildlife in Canada,1982. All except one pair of whooping cranes nest in Wood Buffalo National Park.

There are 15 species of cranes in the world today. The whooping crane and the sandhill crane are the only wild cranes in North America.

Whooping cranes have not been numerous in North America for at least 150 years. In 1850 there were probably fewer than 1 300. Much of their breeding habitat was subsequently destroyed and the small unprotected population almost vanished. By 1941, only 20 wild whooping cranes remained.

Current Supply and Use

Current supply (1984) consists of 143 birds in three populations: wild populations in the Wood Buffalo National Park area (75 birds), and in Idaho (31 birds), and a captive flock of 37 birds in three other refuges: Maryland (34); Texas (2); Wisconsin (1).

Long-Range Goals

Population Goal

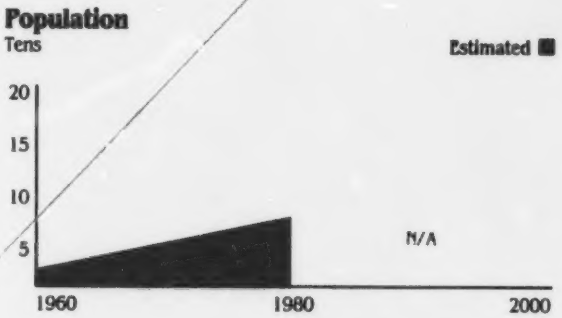
1) Increase populations to the point where the species can be removed from the endangered list, estimated at 40 breeding pairs in Wood Buffalo National Park plus two other sets of 20 breeding pairs in other areas.

Alberta's Role

1) Public education to ensure the safety of these birds.
2) Maintain resting habitat.
3) Expand breeding habitat in Alberta.

Data Sources

Canadian Wildlife Service.



Peregrine Falcon

Endangered

Overview and History

Peregrine falcon are listed as an endangered species in Canada by the Committee on the Status of Endangered Wildlife in Canada, 1982. They are migrants spending the summer in North America and winters in Central and South America.

Peregrine normally nest on cliffs overlooking water and feed on prey which live in or on the water. In the past, this prey accumulated toxic chemicals in its flesh and the peregrine, at the top of the food chain, paid the price with eggshells which were too thin to allow survival of the young. Some of these chemicals (DDT) have been banned but their continued use in Central and South America and their persistence in the environment still hinders population recoveries.

Current Supply

About nine pair breed in the wild in Alberta.

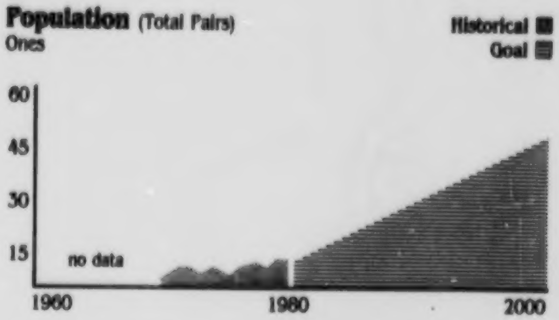
Long-Range Goals

Population Goal

1) Increase the population to 50 breeding pairs. Achieving this goal requires a solution to the chemical contamination problems in Central and South American wintering grounds.

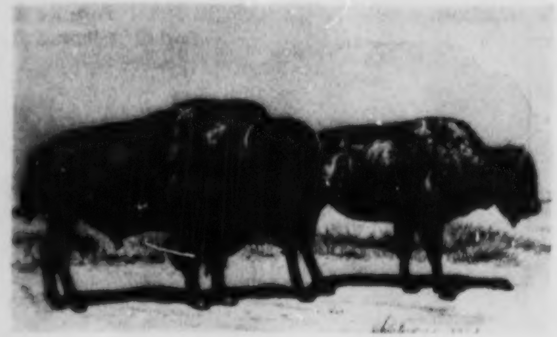
Data Sources

Data were obtained from reports prepared for the Committee on the Status of Endangered Wildlife in Canada and from the Divisions records.



Bison (Buffalo)

Endangered



Overview and History

Bison once ranged in vast herds over the grasslands of southern Alberta and through the more open parts of the adjoining forest regions in the central and northern parts of the province. However, by the turn of the century, only a few were left in the upper Peace River Valley, some in captivity and an isolated herd of wood bison, a different subspecies of the North American bison in the Great Slave Lake region, N.W.T.

The Government of Canada, in a conservation experiment, preserved the plains bison in Canada by acquiring most of the largest herd remaining in private ownership on the North American continent: 716 head between 1907 and 1912. The herd started in 1873 when Walking Coyote captured four young calves on the Milk River near the Canadian-U.S. border and took them to the Flathead Indian Reservation in Montana.

The first bison reserve in Canada was established at Elk Island National Park in 1907 with later shipments from 1902 to 1912 sent directly to the newly created Buffalo National Park at Wainwright. The bison increased rapidly and soon exceeded the carrying capacity of the range at Wainwright. Between 1925 and 1928, 6 673 of these animals were shipped to Wood Buffalo National Park in the Northwest Territories where they subsequently interbred with the resident wood bison, creating a large herd of hybrid wood/plains buffalo. The park now supports between 5 000 and 6 000 hybrid bison.

Current Supply and Use

Plains bison: There are no free-ranging plains bison left in Alberta except for a herd of about 500 in semi-captivity located on the north side of Hwy 16 in Elk Island National Park.

Wood-plains hybrids: Number about 5 000 animals in Wood Buffalo National Park.

Wood bison: Current classified as endangered in Canada by the Committee on the Status of Endangered Wildlife in Canada, 1982. Twenty-three were captured in a remote corner of northwest Wood Buffalo National Park and brought to Elk Island National Park in 1965; this herd located on the south side of Hwy 16, number about 185 and is used to supply disease-free wood bison for transfers to the wild. In addition, small captive breeding herds are located at Calgary Zoo, Valley Zoo, the Alberta Wildlife Park, and Banff National Park.

Goal

1) Establish a herd of wild, free-ranging wood bison on about 360 square kilometres (139 square miles) of potential range in the Hay-Zama Lakes area of northwestern Alberta.

White Pelican

Threatened

Overview and History

White pelicans are listed as threatened in Canada by the Committee on the Status of Endangered Wildlife in Canada, 1982. Currently, white pelicans nest on islands in six lakes and one river in Alberta: Beaverhill, Pakowki, Pelican, Utikuma, Wadlin, and Birch/Namur lakes and the Slave River.

At least 13 other breeding colonies have been abandoned in Alberta since the turn of the century, due mainly to human disturbance during the nesting period.

Current Supply and Use

The estimated breeding population is 550 active breeding pairs (1980). Populations have been increasing slowly during the past 13 years.

Long-Range Goals

Population Goal

1) Increase the number of active breeding pairs to 1 000 so as to maintain viable populations.

User Goal

1) Increase viewing opportunities if these do not disturb the birds.

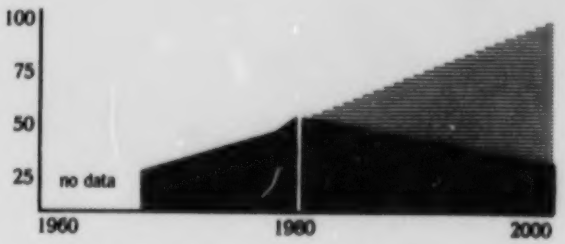
Habitat Goal

1) Encourage birds to nest in historical colonies.

Data Sources

Historical data were collected by various naturalists. The Canadian Wildlife Service, the Provincial Museum and the Alberta Fish and Wildlife Division have been involved in more recent surveys. For example, the latter has carried out comprehensive provincial surveys since 1978.

• Previously Active Colonies
● Presently Active Colonies 1-49
■ Presently Active Colonies over 50



Ferruginous Hawk

Threatened

Overview and History

Ferruginous hawks are listed as threatened in Canada by the Committee on the Status of Endangered Wildlife in Canada, 1982. An estimated 600 to 1 400 pairs remain in Alberta. Historic populations have been estimated at 4 000 pairs.

Ferruginous hawks mainly inhabit prairie. The reduction in numbers is considered to have resulted from a combination of human disturbance and habitat loss. The loss of habitat is partly a result of an encroachment of parkland into prairie due to the control of fires in the last 50 years. Human disturbance is a combination of agricultural, oil and gas and recreational activity.

Current Supply

The current supply is estimated to be 600 to 1 400 pairs.

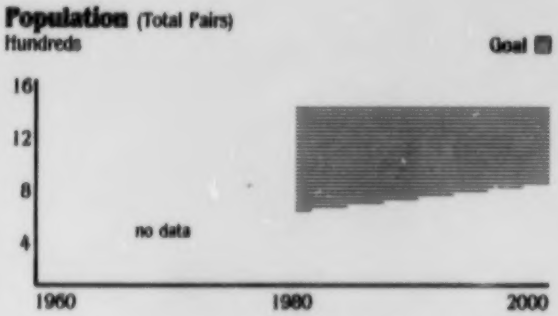
Long-Range Goals

Population Goal

1) Maintain a population of 800 to 1 400 pairs while evaluating desirable and achievable population levels.

Data Sources

Data were obtained from reports to the Committee on the Status of Endangered Wildlife in Canada.



Overview and History

The burrowing owl is listed as threatened in Canada by the Committee on the Status of Endangered Wildlife in Canada, 1982. An estimated 600 pairs remain in Alberta. This represents about 30 per cent of the Canadian population.

"The home of the Burrowing Owl is the short-grass plains where Richardson's Ground Squirrels, Chestnut-collared Longspurs, and Vesper Sparrows are its neighbours...The number of mangled feathery bodies on the prairie roads indicates one reason why Burrowing Owls are not as abundant as they once were. But a major cause of their depletion is the cultivation of native grasslands and the disappearance of ground squirrels and badgers, all of which are essential parts of the breeding environment of Burrowing Owls."[1]

Current Supply

About 600 pairs remain in Alberta.

Long-Range Goals

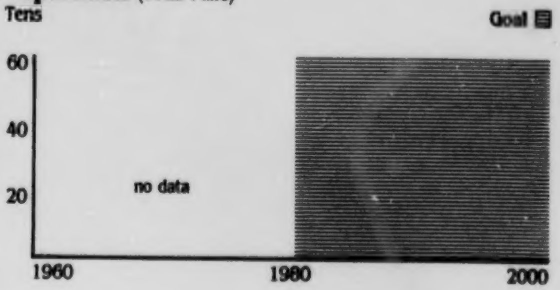
i) Maintain current populations while evaluating achievable population levels.

Data Sources

Data were obtained from reports to the Committee on the Status of Endangered Wildlife in Canada.

[1] Salt, W.R. and J.R. Salt, *The Birds of Alberta* (Edmonton, Alberta: Hurtig Publishers, 1976)

Population (Total Pairs)



Weasel (Ermine)

Threatened

Overview and History

The long-tailed weasel (Prairies) is listed as threatened in Canada by the Committee on the Status of Endangered Wildlife in Canada, 1982. Three species of weasels are distributed throughout Alberta: the long-tailed in the southern part of the province, the short-tailed in the northern part of the province, and the least weasel throughout the province. The short-tailed is the ermine of the fur trade.

Ermine harvests climbed during the depression years and peaked at half a million pelts in the fiscal year 1941/42. They have declined since then to about 20 000 to 30 000 in the last few years.

Current Supply and Use

The current supply is not known but it is know that long-tailed weasel are on the decline and short-tailed weasel are underharvested. Current harvest are about 30 000 pelts ($50 000) annually.

Long-Range Goals

Population Goal

1) Maintain current populations.

User Goals

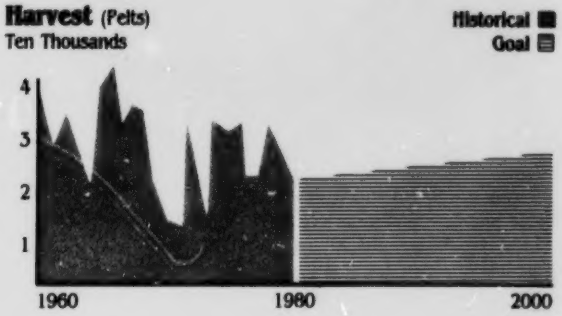
1) Harvest about 24 000 pelts annually while adequately protecting long-tailed weasels.

Habitat Goal

1) Maintain current habitat of all weasels.

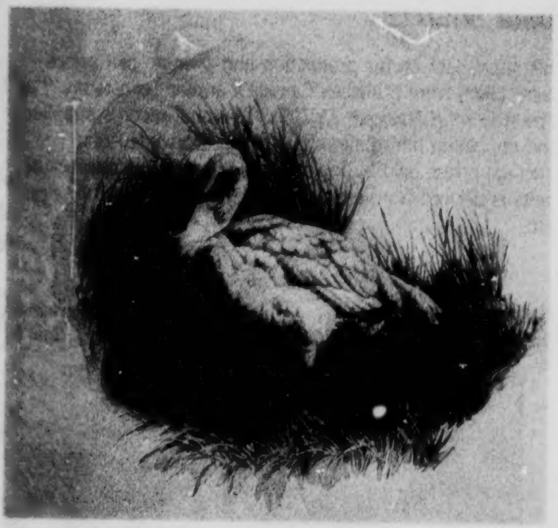
Data Sources

Historical data on fur production and average pelt prices were taken from Statistics Canada's annual reports on "Fur Production" (Catalogue 23-207). Divisional records supplied the remaining information. Fur prices are winter-long average prices paid by major fur auctions while number of pelts is derived from export permits for royalties, fur sales, etc.



Trumpeter Swan

Rare



Overview and History

Trumpeter swan are listed as rare in Canada by the Committee on the Status of Endangered Wildlife in Canada, 1982. The most important nesting habitat in Alberta is in the Grande Prairie area. The flock nesting in that area represents one of the last remnants of the interior trumpeter swan population which formerly ranged throughout the Great Plains and Western Arctic.

The trumpeter swan was nearly exterminated in the 19th century, with the mid-continent populations reduced to about 70 resident swans in the vicinity of Yellowstone National Park plus the small Grande Prairie flock. The establishment of the Red Rock Lake National Refuge in Montana in 1931, plus protection and concern by the pioneers and residents of Grande Prairie, helped populations increase to present levels.

Current Supply and Use

The current Alberta supply (1980) was fewer than 200 birds, consisting of 24 successful nesting pairs, 16 other non-successful pairs and about 100 other (young, etc.). Twenty-one of the 24 successful nesting pairs bred in the Grande Prairie area.

Long-Range Goals

Population Goal

1) Increase spring populations to 80 successful nesting pairs.

User Goal

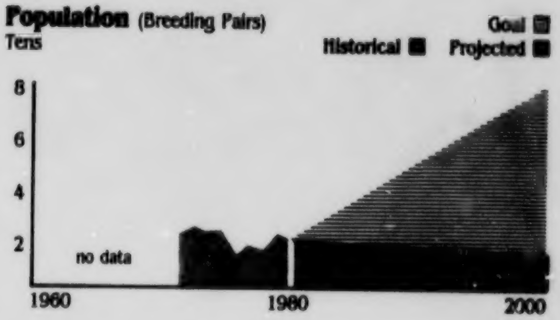
1) Increase viewing opportunities by establishing breeding concentrations in more areas of the province.

Habitat Goals

1) Maintain current nesting habitat.
2) Establish new wintering sites in British Columbia.

Data Sources

The Canadian Wildlife Service in conjunction with the Alberta Fish and Wildlife Division have carried out annual fall swan surveys in the Grande Prairie area since 1957.



Great Gray Owl

Rare

Overview and History

The Great Gray Owl is listed as rare in Canada by the Committee on the Status of Endangered Wildlife in Canada, 1982. "The Great Gray Owl breeds in northern Alberta south to Jasper, Rocky Mountain House, and Miquelon Lake, where nests have been found, and perhaps as far south as Sundre and Calgary...The Great Gray Owl is a bird of the undisturbed woodlands, particularly those forests where there is a mixture of coniferous muskegs, deciduous uplands, and small natural clearings that provide many forest margins where it likes to hunt."[1]

Current Supply

Nero[2] in a report to COSEWIC, states that: "...it may be best to classify this species as a sparse resident over most of the known breeding range, but not rare in some localities." Its numbers also vary in synchrony with availability of primary prey species, namely small rodents and shrews. Its overall population status in Alberta is unknown.

Long-Range Goals

1) To establish, in cooperation with other agencies and groups, reporting systems to determine distributions and more precise population trends.
2) To continue with public information programs regarding this and other rare species.

Data Sources

[1] Salt, W.R. and J. Salt, *The Birds of Alberta* (Edmonton, Alberta: Hurtig Publishers, 1976)

[2] Nero, R.W., *The Status of the Great Gray Owl (**Strix nebulosa**) in Canada*, Committee on the Status of Endangered Wildlife in Canada.

Caspian Tern

Rare

Overview and History

The Caspian Tern is listed as rare in Canada by the Committee on the Status of Endangered Wildlife in Canada, 1982. It has a worldwide but highly scattered breeding distribution. In Canada there are colonies in six provinces and the Northwest Territories. In Alberta the Caspian Tern nests irregularly at the west end of Lake Athabasca. Elsewhere in the province the Caspian Tern is a casual wanderer.

Current Supply

Alberta's supply is estimated at 47 breeding pairs which is less than one per cent (1%) of the Canadian supply of breeding pairs.

Long-Range Goals

1) Maintain the current supply while cooperating with other agencies and groups, to record population trends.

Data Source

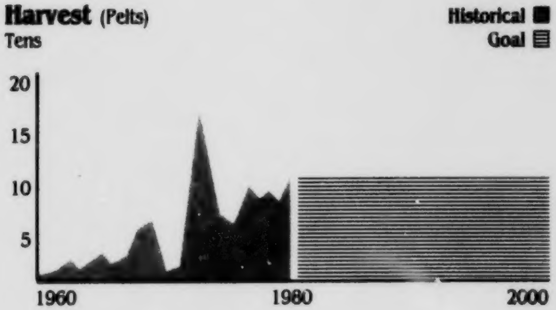
1979 report to the Committee on the Status of Endangered Wildlife in Canada.

Wolverine

Rare

Overview and History

Wolverine are listed as rare in Canada by the Committee on the Status of Endangered Wildlife in Canada, 1982. They are likely the rarest carnivore normally resident in Alberta. While pursued by some hunters as a trophy and loathed by some registered trappers because of its reputation as a trap robber, the wolverine is seen as a symbol of wilderness by other Albertans. Because of its winter reliance on carrion the species is vulnerable to certain predator-control operations. It may also be a nuisance around field camps which do not practise proper waste disposal.



Current Supply and Use

Seventy-four wolverine pelts were sold in the fiscal year 1979/80 and returned $8 273 revenue to Albertans.

Long-Range Goals

1) Determine provincial distribution, numbers and habitat requirements while maintaining current levels of harvest.
2) Promote better wolverine-trapper interactions through objective study.

Data Sources

Historical data on fur production and average pelt prices were taken from Statistics Canada's annual reports on "Fur Production" (Catalogue 23-207). Divisional records supplied the remaining information. Fur prices are winter-long average prices paid by major fur auctions while number of pelts is derived from export permits for royalties, fur sales, etc.

Fish

Trout

Overview and History

In Alberta, the term trout generally refers to native populations of Cutthroat, Bulltrout, Rainbow and Lake trout and to introduced stocks of Brown, Eastern Brook, Golden, and Rainbow trout. These fish, except for Lake trout are self sustaining in the streams, rivers and some lakes of the eastern slopes of the Rocky Mountains. Lake trout are found mainly in Northeast Alberta. This natural range has been extended throughout the province through an active stocking program of hatchery-reared trout. The majority of lakes which are stocked do not have suitable spawning habitat; therefore, these waters must be re-stocked periodically to sustain a fishery. Historically there has been a gradual reduction in the number of naturally reproducing catchable-size trout. Habitat alteration (silt, stream bank cover removal) and increased fishing pressure are two of the main reasons for this change.

Current Supply and Use — All Species

In 1980 Alberta's 368 000 active anglers spent 17.1 days each fishing, of which an average of six days was spent fishing for trout in general. Trout fishing therefore supplied about 2 200 000 days of recreation during which about 2 000 000 trout were caught. About two-thirds of the trout were produced through natural production and therefore were caught in streams while the remaining third was the result of stocking 4 500 000 hatchery-reared trout (10-15 per cent return to creel).

Trout are the number one preferred fish in Alberta. Albertans want more, however, increasing the supply for angler use is hindered by:

1) The cold water in the Eastern Slopes which reduces productivity.
2) Warm water in the central and southern part of the province which limits trout production.
3) Habitat alteration on some streams.
4) The cost of hatchery production.

Long-Range Goals

Population Goals

1) Maintain (or increase) all naturally reproducing rainbow populations at (to) maximum production levels. This should supply 1 000 000 to 1 500 000 total catchable trout a year.
2) Supplement natural production with stocked fish so as to supply a total of 3 000 000 harvestable trout (all species) in Alberta by the year 2000, using native species as much as possible.

User Goals

1) Maintain the current average number of trout angling days per angler (six days per angler a year), recognizing that the number of fish kept per angler may decrease.
2) Promote species identification by the public so as to assist in management of individual species.
3) Meet the demand for the scenery and solitude associated with wildland trout fishing.

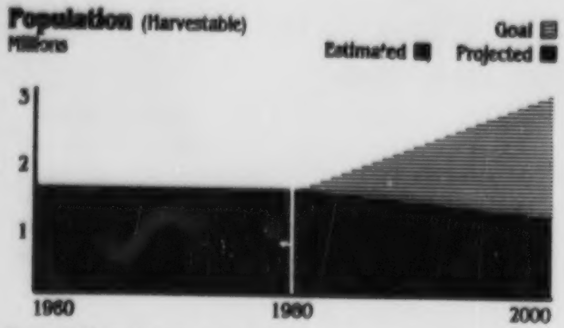
Habitat Goal

1) Maintain and enhance the habitat required as specified for each species.

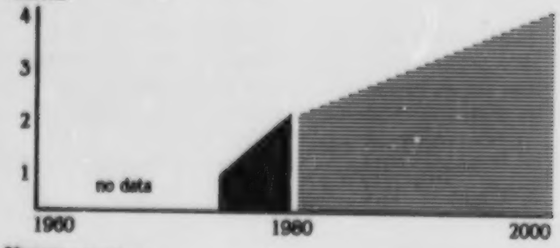
Data Sources

The number of active anglers was calculated using the numbers of licences sold, adjusted to remove inactive anglers and to include children and senior citizens, who fish legally without a licence, and illegal anglers. Information about harvests and days spent fishing were obtained from two national surveys, 1975 and 1980, and a 1976 provincial survey and Divisional records. Estimated trout production, return to creel and number of surface hectares are all based on Divisional records and reports.

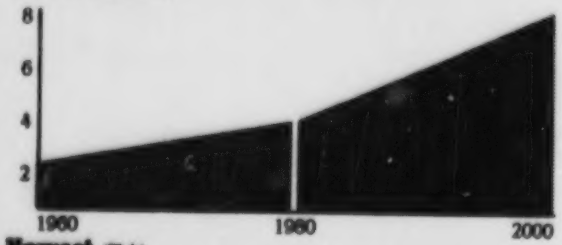
Population (Harvestable)
Millions



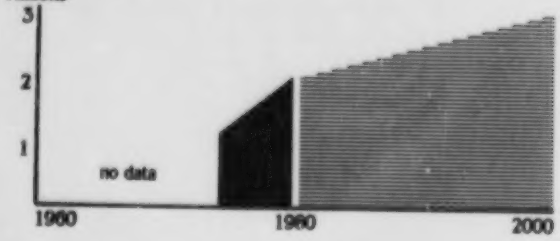
Recreation Days (Fishing)
Millions



Users (Anglers)
Hundred Thousands



Harvest (Fish)
Millions



Rainbow Trout

Overview and History

In Alberta, rainbow trout are native to the Athabasca watershed. This natural range has been extended throughout the province by an active stocking program of hatchery-reared trout. The majority of lakes which are stocked do not have suitable spawning habitat; therefore, these waters must be re-stocked periodically to sustain a fishery. Historically there has been a gradual reduction in the number of naturally reproducing catchable-size trout. Habitat deterioration (silt, stream bank cover removal) and increased fishing pressure are two of the main reasons for this change.

Current Supply and Use — All Species

In 1980 Alberta's 368 000 active anglers spent 17.1 days each fishing, of which an average of six days was spent fishing for trout in general. Trout fishing therefore supplied about 2 200 000 days of recreation during which about 2 000 000 trout were caught. Rainbow trout supplied about 55 per cent of the trout caught. About two-thirds were produced through natural production while the remaining third was the result of stocking 4 500 000 hatchery-reared trout (10-15 per cent return to creel).

Trout are the number one preferred fish in Alberta. However, increasing the supply is hindered by:

1) The cold water in the Eastern Slopes which reduces productivity.
2) Habitat alteration on some streams.
3) The cost of hatchery production.

Long-Range Goals

Population Goals

1) Maintain (or increase) all naturally reproducing rainbow populations at (to) maximum production levels.
2) Supplement natural production with stocked fish, using native species as much as possible.

User Goals

1) Maintain the current average number of trout angling days per angler (six days per angler a year), recognizing that the number of fish kept per angler may decrease.
2) Promote species identification by the public to assist in management of individual species.
3) Meet the demand for the scenery and solitude associated with wildland trout fishing.

Habitat Goal

1) Maintain and enhance the estimated 20 000 km/12 000 miles of streams containing trout and the 14 000 ha/34 600 surface acres (202 lakes) now inhabited by rainbow trout so as to:

   a) Supply habitat for the number of trout desired.

Overview and History

Cutthroat trout are native to rivers and streams from the Bow River watershed south to the U.S. border. The range of cutthroat trout has been extended north to the North Saskatchewan watershed through hatchery stocking. Cutthroat trout are critical to the provincial high mountain lakes fishery program. Habitat alteration and exotic trout introductions have reduced or eliminated populations of cutthroat trout in several areas of the province.

Current Supply and Use

Cutthroat trout supply a significant portion of the angling opportunity in streams of the Eastern Slopes and a major portion of the angling opportunity in high mountain lakes. About 22 per cent of all trout caught in the province are cuttthroat. Increasing the supply is hindered by:

1) The cold water of the Eastern Slopes which contribute to low productivity.
2) Habitat alteration on some streams.
3) Problems with long-term egg supply.
4) The logistics of stocking.

Long-Range Goals

Population Goals

1) Maintain (or increase) all naturally-reproducing populations at (to) maximum production levels.
2) Supplement natural production with stocked fish.
3) Reintroduce cutthroat trout in previously-occupied habitat.

User Goals

1) Maintain the current average number of trout angling days per angler, recognizing that the number of fish kept per angler may decrease.
2) Promote species identification by the public so as to assist in management of individual species.
3) Promote public recognition of the importance of cutthroat trout in the sportfishing management programs of the Eastern Slopes and high mountain lakes.
4) Meet the demand for the scenery and solitude associated with wildland trout fishing.

Habitat Goal

1) Maintain and enhance the estimated 20 000 km/12 000 miles of habitat associated with trout populations and the 2 500 ha/6 000 acres (25 lakes) now inhabited by cutthroat trout so as to:
   a) Supply habitat for the number of cutthroat trout desired.

Bull Trout

Overview and History

Bull trout are native to the streams, rivers and lakes of the Eastern Slopes of the Rocky Mountains. They occur in headwaters as well as mainstream areas. Spring-fed tributaries are important for reproduction and juvenile rearing. Adults often inhabit large streams or lakes and exhibit a high degree of homing to spawning tributaries.

The range (as well as the size of populations within that range) of bull trout in Alberta has decreased because of habitat alteration (silt, erosion and streambank cover removal), vulnerability to catching by anglers and competition with exotic trout species.

Current Supply and Use

Because of their suitability in headwater stream areas, bull trout supply a significant portion of the angling opportunities in the Eastern Slopes and provide the only opportunity for anglers to catch large (2 kg/5 lb) trout in these streams. Bull trout supply about seven per cent of the provincial trout catch. Increasing the supply is hindered by:

1) The cold water in the Eastern Slopes which reduces productivity.
2) The late age of maturity which leads to harvest before reproduction.
3) Angling vulnerability which leads to overharvest.
4) Habitat alteration.

Long-Range Goals

Population Goals

1) Increase all naturally reproducing populations.
2) Reintroduce bull trout into previously occupied habitat.

User Goals

1) Maintain the current average number of trout angling days per angler, recognizing that the number of fish kept per angler may decrease.
2) Promote species identification by the public so as to assist in management of individual species.
3) Promote public recognition of the importance of the species in sportfishery management programs in headwater areas of the Eastern Slopes.
4) Promote the trophy aspect of bull trout and provide larger fish for the recreational angler while recognizing the need to reduce the number of fish creeled.
5) Meet the demand for the scenery and solitude associated with wildland trout fishing.

Habitat Goals

1) Maintain and enhance the estimated 20 000 km/12 000 miles of habitat associated with all trout populations and the 11 000 ha/27 000 acres (20 lakes) inhabited by bull trout so as to:

   a) Supply habitat for the number of bull trout desired.
2) Maintain critical spawning and rearing areas.

Overview and History

Lake trout are a native species which inhabit relatively deep, cool lakes in Alberta such as Margaret, Cold, Peerless, Swan and Rock. Most of the lakes which contain lake trout are in northeastern Alberta but a few are scattered along the Eastern Slopes. Historically, there has been a gradual reduction in the number of naturally-reproducing lake trout populations. Increased fishing pressure (commercial and recreational) is the main reason for this loss.

Current Supply and Use

Lake trout provide angling opportunities for trout in lakes and the only good opportunity for catching large (3 kg/8 lb) trout in the province. About 0.5 per cent of all trout caught provincially are lake trout. Increasing the supply is hindered by:

1) Slow growth and late maturity which contribute to overharvest by anglers.
2) Habitat requirements for large deep lakes.
3) Unreliable egg source.

Long-Range Goals

Population Goals

1) Maintain (or increase) all naturally reproducing populations at (to) maximum production levels.
2) Supplement natural production with stocked fish so as to supply increased angling opportunities for lake trout.
3) Reintroduce lake trout into previously occupied habitat, if suitable.

User Goals

1) Maintain the current average number of lake trout angling days per angler, recognizing that the number of fish kept per angler may decrease.
2) Promote public recognition of their unique nature because of large size and rarity.

Habitat Goal

1) Maintain and enhance the estimated 200 000 surface ha/494 000 acres (40 lakes) of habitat associated with lake trout populations so as to:

   a) Supply habitat for the number of lake trout desired.

Overview and History

Brown trout are an exotic species which were stocked extensively in foothill streams in the 1930s and 1940s. They currently reproduce in many of these streams and are also stocked in a few lakes and beaver dams where they are one of the best suited trout species.

Current Supply and Use

There are relatively few brown trout but these provide a signficant stream fishery on rivers where heavy angling pressure has reduced or eliminated more vulnerable native trout. About five per cent of the provincial catch of trout is brown trout. Increasing the supply is influenced by:

1) The cold water in the foothills which reduces productivity.
2) Habitat alteration on some stream.

Long-Range Goals

Population Goals

1) Maintain all existing naturally reproducing populations at maximum production levels only where they are better suited to the habitat than native trout.
2) Supplement natural production with stocked fish in areas where they are better suited to the habitat than are native trout.

User Goals

1) Maintain the current average number of brown trout angling days per angler, recognizing that the number of fish kept per angler may decrease.
2) Promote species identification by the public so as to assist in management of individual species.
3) Meet the demand for the scenery and solitude associated with wildland trout fishing.

Habitat Goal

1) Maintain and enhance the estimated 20 000 km/12 000 miles of stream habitat associated with all trout and the 1 700 ha/4 200 acres (eight lakes) associated with brown trout so as to:

   a) Supply habitat for the number of brown trout desired.

Overview and History

Brook trout are an exotic species which was stocked extensively in Eastern Slopes streams during the 1930s and 1940s. They currently reproduce in many of these streams and are also stocked in a few lakes and beaver dams where they are one of the best-suited trout species.

Current Supply and Use

There are relatively few brook trout in Alberta but these few do produce a significant stream fishery in small spring-fed streams. They are also stocked in lakes where winter oxygen levels are marginal for other trout species. About 10 per cent of the provincial catch of trout are brook trout.

Long-Range Goals

Population Goals

1) Maintain all existing naturally-reproducing populations at maximum production levels only where they are better suited to the habitat than native trout.
2) Supplement natural production with stocked fish in areas where they are better suited to the habitat than are native trout.

User Goals

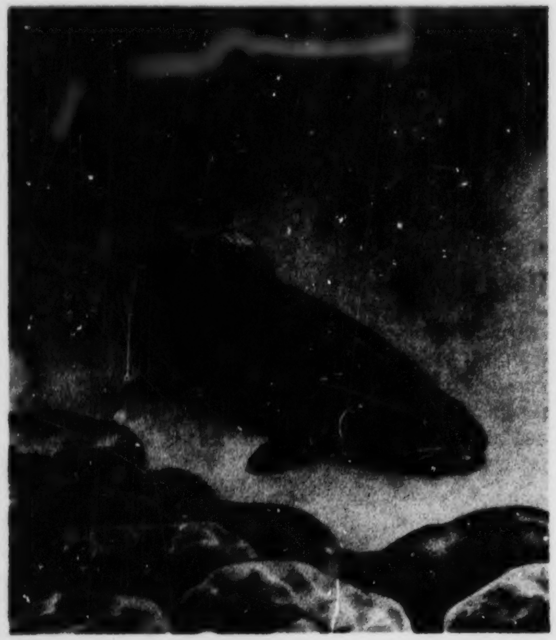
1) Maintain the current average number of brook trout angling days per angler, recognizing that the number of fish kept per angler may decrease.
2) Promote species identification by the public so as to assist in management of individual species.
3) Meet the demand for the scenery and solitude associated with wildland trout fishing.

Habitat Goal

1) Maintain and enhance the estimated 20 000 km/12 000 miles of streams associated with all trout and the 2 000 ha/4 900 acres (40 lakes) associated with brook trout so as to:

    a) Supply habitat for the number of brook trout desired.

Golden Trout



Overview and History

Golden trout are an exotic species presently inhabiting a few Eastern Slopes high-altitude lakes. They are well adapted to high altitude waters and were originally stocked to provide diversity in angling opportunities.

Current Supply and Use

The supply is restricted to these few high-altitude lakes. The species provides a unique angling opportunity but represents a very small portion of the total trout supply: about 0.1 per cent of the provincial catch of trout. Increasing the supply is hindered by:

1) Available lakes.
2) A reliable long-term egg supply.

Long-Range Goals

Population Goals

1) Maintain (or increase) all existing naturally reproducing populations at (to) maximum production levels.
2) Supplement natural production with stocked fish if demand increases dramatically in areas which are not connected with native trout range.

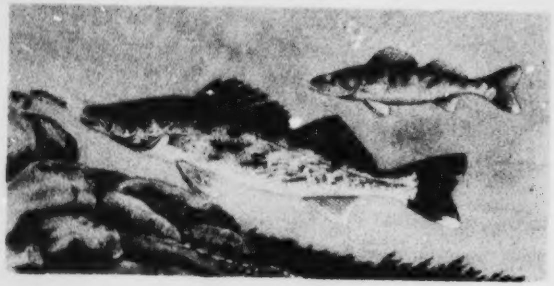
User Goals

1) Maintain the current average number of golden trout angling days per angler, recognizing that the number of fish kept per angler may decrease.
2) Promote species identification by the public so as to assist in management of individual species.
3) Meet the demand for the wilderness scenery and solitude associated with golden trout fishing.

Habitat Goal

1) Maintain and enhance the 20 ha/50 acres (six lakes) associated with golden trout populations so as to:

   a) Supply habitat for the number of golden trout desired.



Overview and History

Most of Alberta's walleye inhabit the lakes and rivers of northeastern Alberta. They are most successful in cool, large (over 400 ha/1 000 acres) well-oxygenated lakes, and in the lower reaches of the larger rivers of Alberta.

Walleye are a favorite sports fish in Alberta, exceeded only by trout. The demand has exceeded the available supply for a number of years.

Current Supply and Use

About 890 000 walleye were caught by Alberta's 368 000 active anglers in 1980. The anglers spent about two days each fishing for walleye, for a total of 735 000 days of recreation. Ninety per cent of these walleye were caught in lakes and 10 per cent in rivers.

In addition, about 60 000 kg/132 000 lb (44 000 walleye) were harvested commercially.

Albertans want more walleye. They were listed as the number two preferred fish, after trout, in the 1980 survey; and the number harvested in 1980 exceeded the number that should have been harvested by about one-third.

There are two problems in trying to increase the number of harvestable walleye. First is Alberta's short growing season and, second, is the limited amount of water suitable for walleye in Alberta.

Long-Range Goals

Population Goal

1) Increase the number of harvestable walleye to about 1 000 000 a year.

User Goal

1) Increase the number of recreation days to about 1 000 000 per year, based on angler experience of one walleye per day.

Habitat Goals

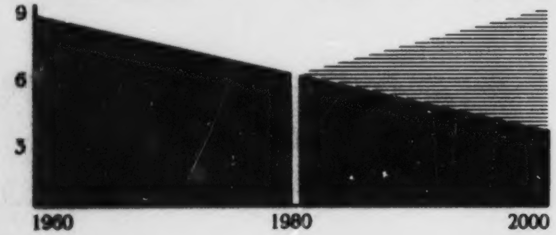
1) Maintain all present walleye producing lakes (637 000 ha/1 575 262 acres — 102 lakes).
2) Bring back into full production those lakes identified as having walleye populations below historical levels (212 862 ha/525 982 acres).
3) Stock lakes identified as suitable for walleye stocking (83 025 ha/205 155 acres).

Data Sources

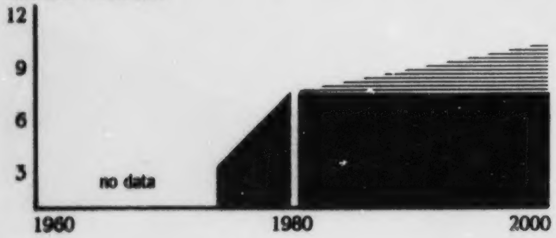
Harvest information for recreational fishing was obtained from two national surveys, 1975 and 1980, and Divisional records. Commercial harvests were recorded by field personnel. Production figures were taken from creel census and lake production (Fawcett Lake) studies by Divisional personnel.

Population (Harvestable)
Hundred Thousands

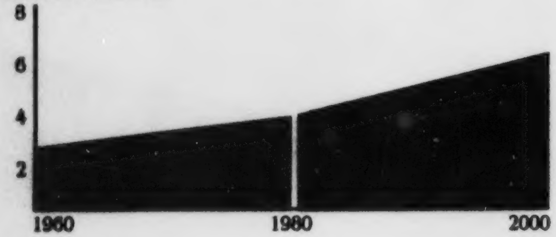
Goal
Estimated Projected



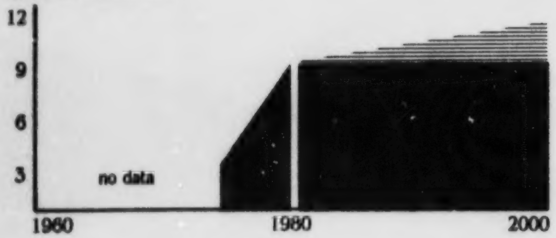
Recreation Days (Fishing)
Hundred Thousands



Users (Anglers)
Hundred Thousands



Harvest (Fish)
Hundred Thousands



Overview and History

Yellow perch are common in lakes, ponds and large slow-moving streams in Alberta, especially in the northeast. Perch play an important role both as a sports fish and as a forage fish for larger game fish such as walleye and pike. The number of perch caught per angler a year has increased from five in 1975 to nine in 1980.

Current Supply and Use

The average Alberta angler fished for perch for about two days in 1980, catching more than nine perch each for a total of about 3 000 000 perch caught. Perch fishing therefore supplied about 735 000 days of recreation. An additional 8 000 kg/17 600 lb (17 600 perch) are harvested commercially every year.

The supply of harvestable perch met demand in 1980; however, many were stunted populations so they were not very desirable for recreational anglers.

Long-Range Goals

Population and User Goals

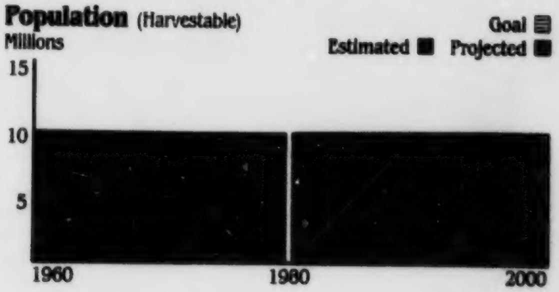
1) Increase the supply through transplants and encourage more anglers to fish in lakes which are underharvested.
2) Maintain some lakes for trophy fishing.

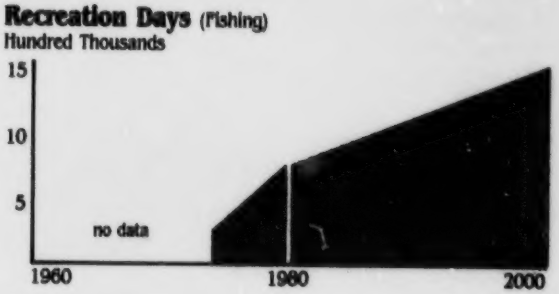
Habitat Goal

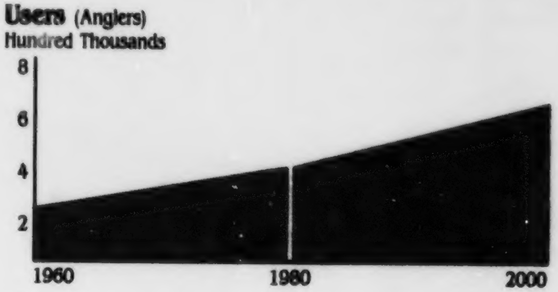
1) Maintain the current habitat of approximately 1 200 000 ha/3 000 000 acres (300 lakes) with special attention paid to spawning areas.

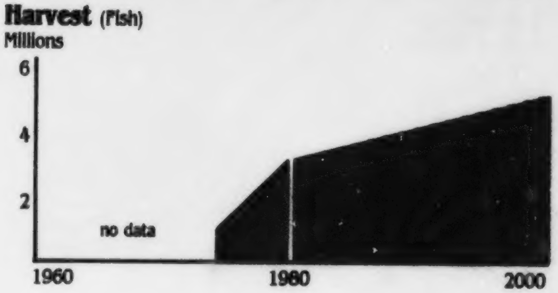
Data Sources

Harvest information for recreational fishing was obtained from two national surveys, 1975 and 1980, and from Divisional records. Commercial harvests were recorded by field personnel. The supply of yellow perch was calculated by multiplying the total surface hectares times the average kg of perch per hectare.









Overview and History

Northern pike prefer relatively shallow, weedy, clear waters and, although they occur primarily in lakes, they are also common in slow, warm streams. Most of these lakes and rivers are in the northeastern area of the province.

Current Supply and Use

The average Alberta angler fished for pike for about six days in 1980, catching nine fish per angler for a total of 2 800 000 pike. Ninety per cent of the fish were caught in lakes and 10 per cent in rivers. Pike fishing supplied about 2 200 000 days of recreation in 1980. In addition, about 250 000 kg/550 000 lb (137 500 pike) were harvested commercially in the fiscal year 1979/80.

The supply of harvestable pike met demand in 1980.

Long-Range Goals

Population Goals

1) Maintain current numbers.
2) Adjust the harvest in those lakes which are under heavy fishing pressure.

User Goals

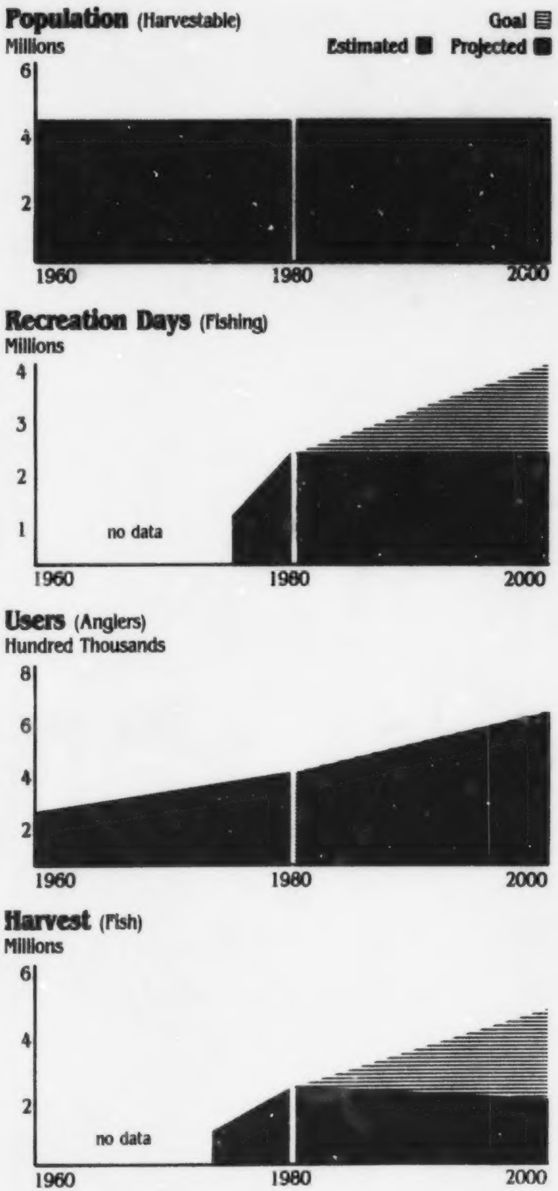
1) Encourage more anglers to fish in lakes which are under used.
2) Maintain some lakes for trophy fishing.

Habitat Goal

1) Maintain the present habitat of approximately 1 500 000 ha/3 700 000 acres (500 lakes) with special attention to the protection of spawning areas.

Data Sources

Harvest information for recreational fishing was obtained from two national surveys, 1975 and 1980, and from Divisional records. Commercial harvests were recorded by field personnel. To estimate the supply of northern pike an average annual yield figure was applied to the total available surface acres of pike habitat in the province.



Overview and History

Lake whitefish inhabit relatively large lakes. Most of these lakes are located in the northeastern part of the province. However, irrigation reservoirs in southern Alberta have become an increasingly important habitat for these fish.

Historically, lake whitefish were fished commercially and sold for food. However, recreational fishing for lake whitefish, especially ice fishing, has become popular recently.

Current Supply and Use

About 1 000 000 kg/2 200 000 lb of lake whitefish are harvested annually by Alberta's 2 000 commercial fishing licence holders.

Recreational anglers harvested an estimated additional 440 000 fish (about 250 000 kg/550 000 lb) during 184 000 days of recreation.

It is estimated that current use approximately equals current harvestable supply of usable fish. A certain percentage of whitefish are wormy, which reduces their appeal for recreational anglers.

Long-Range Goals

Population Goal

1) Maintain current production.

User Goals

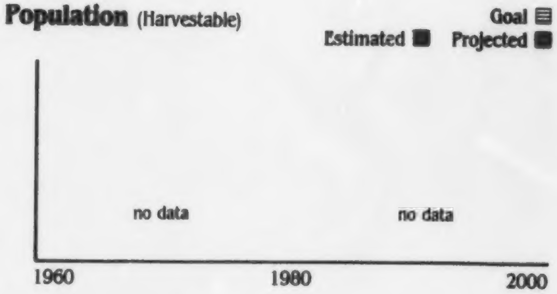
1) Accommodate increased recreational fishing, especially in those lakes close to urban or populated areas.
2) Maintain commercial use of lake whitefish.

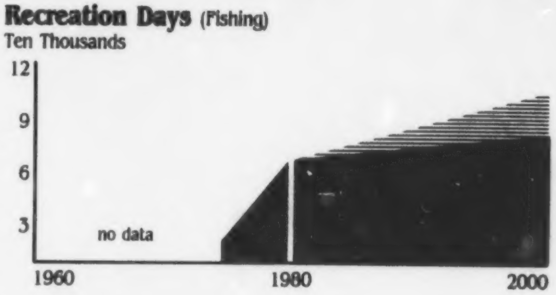
Habitat Goal

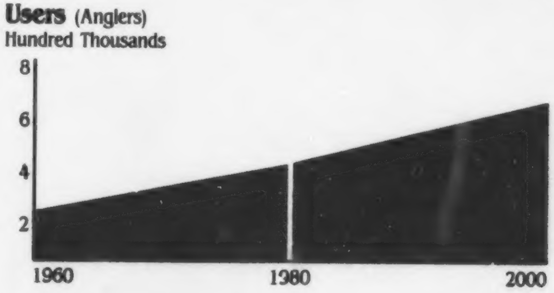
1) Maintain the current 1 300 000 ha/3 200 000 acres (220 lakes) of current habitat.

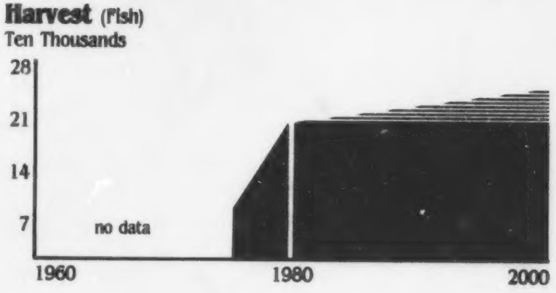
Data Sources

The commercial harvest information on lake whitefish was recorded by Divisional field personnel at the lakes during harvest. Recreational harvest information was obtained from two national surveys, 1975 and 1980, and Divisional records.









Mountain Whitefish

Overview and History

Mountain whitefish are generally abundant in the streams of the Eastern Slopes of the Rocky Mountains and inhabit some associated lakes. They are often caught in medium and large streams and rivers in these areas, especially in the fall when they gather in schools.

Mountain whitefish are called grayling by some anglers.

Current Supply and Use

Alberta's anglers spent an average half a day each fishing for mountain whitefish in 1980, for a total of 184 000 days of recreation, and caught 760 000 mountain whitefish: 90 per cent in streams and 10 per cent in lakes. The harvestable supply is estimated to be 1.3 million fish; therefore, the supply appeared to satisfy use in 1980.

Long-Range Goals

Population Goal

1) Maintain all natural populations at present production levels, estimated to be an average of 50 harvestable mountain whitefish annually per kilometre of suitable habitat.

User Goal

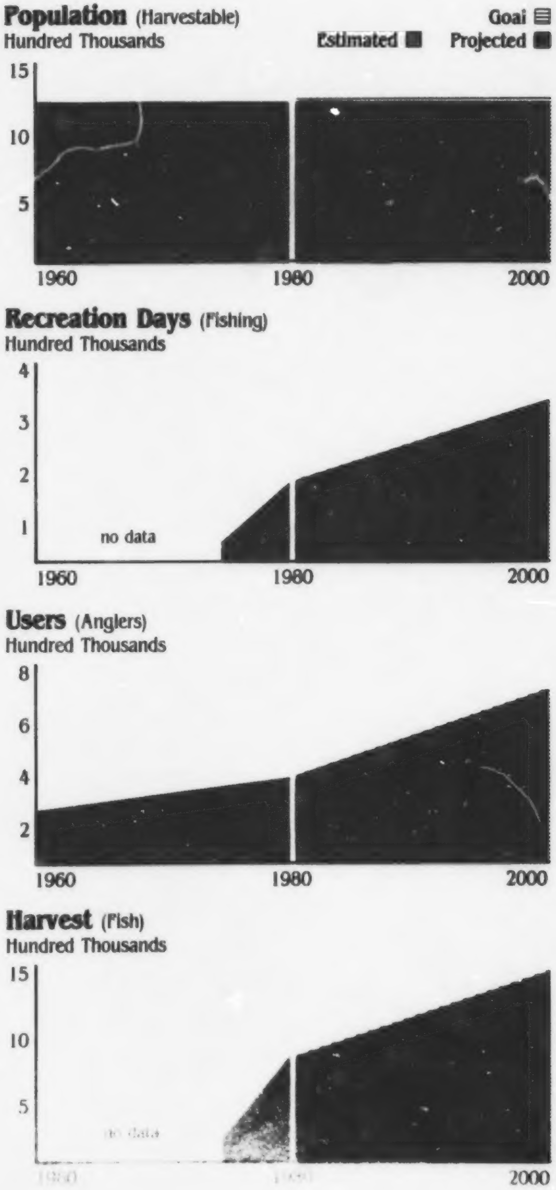
1) Encourage increased recreational use.

Habitat Goal

1) Maintain and enhance the current habitat of about 25 000 km/15 000 miles of streams and 11 000 ha/27 000 acres of lakes (17 lakes).

Data Sources

Recreational harvest information was obtained from two national surveys, 1975 and 1980, and Divisional records. The data requires verification because of the small sample size and because anglers often confuse mountain whitefish with arctic grayling.



Overview and History

Arctic grayling inhabit cool brown water streams and some lakes in the northern and northwest part of Alberta. They are extremely sensitive to pollution such as silt and are caught easily; therefore, arctic grayling appear to be abundant in streams until people gain access to the streams, and then disappear either because of increased silt and/or overfishing.

Current Supply and Use

Alberta's anglers spent about 184 000 days fishing for arctic grayling in 1980 and caught 127 000 fish: 95 per cent in streams, five per cent in lakes. The estimated supply of harvestable grayling was set at 150 000 fish; therefore, the provincial supply appeared to meet the provincial demand. However, easily accessed streams are overharvested.

Long-Range Goals

Population Goals

1) Maintain all natural populations at present production levels, estimated to be an average of 25 harvestable fish per kilometre of suitable clean water.
2) Reintroduce arctic grayling in previously occupied habitat, if suitable.

User Goals

1) Maintain recreational use at about present levels.
2) Investigate the feasibility of rearing, stocking and transplanting arctic grayling.
3) Educate the public concerning the sensitivity of arctic grayling.

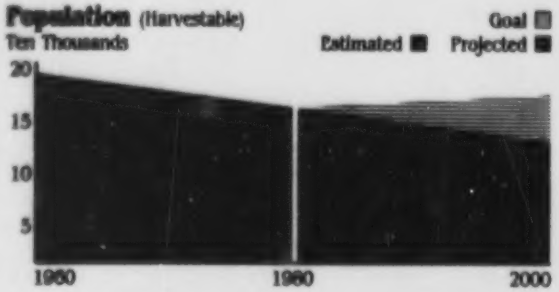
Habitat Goal

1) Protect and enhance the existing habitat of about 6 000 km/3 600 miles of streams and 9 000 ha/22 000 acres of lakes (10 lakes).

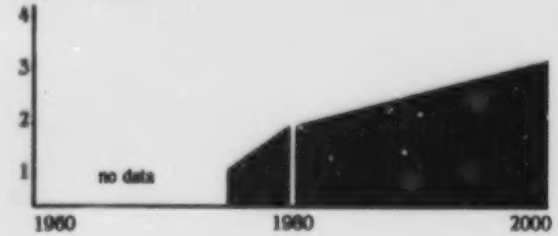
Data Sources

Recreational harvest information was obtained from two national surveys, 1975 and 1980, and from Divisional records. The data requires verification because of the small sample size and because anglers often confuse arctic grayling with mountain whitefish. The number of harvestable fish per kilometre is an estimate based on field-personnel experience.

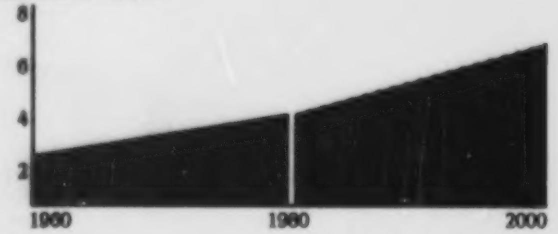
Population (Harvestable)
Ten Thousands



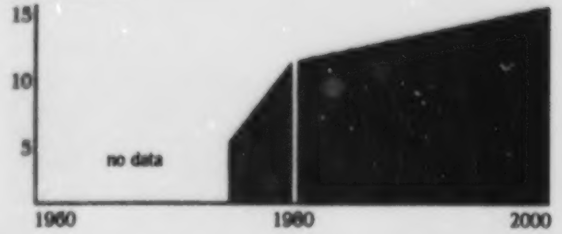
Recreation Days (Fishing)
Hundred Thousands



Users (Anglers)
Hundred Thousands



Harvest (Fish)
Ten Thousands



Overview and History

Goldeye are seasonally abundant (May, June, July) in the lower reaches of the Oldman, Bow, Red Deer and North Saskatchewan rivers in Alberta. They are also known to inhabit the Peace, Slave and Athabasca rivers and certain lakes in the Athabasca delta area. The range of mooneye and goldeye overlap but mooneye appear to prefer clearer water while goldeye are often found in more turbid waters.

Goldeye (Winnipeg goldeye) were an important gourmet fish during the peak years of train travel.

Current Supply and Use

Albertans harvested about 190 000 goldeye, all in rivers, in 1980 while fishing for a total of about 74 000 days (0.2 of the 17.1 total days fishing per angler in Alberta in 1980). Angling for goldeye at easily accessible areas (campgrounds, bridges, etc.) is a popular summer family sport especially on the Red Deer River. The high mercury levels in goldeye in the North Saskatchewan River restrain angling for goldeye on that river.

The total supply of goldeye (harvestable plus non-harvestable due to mercury) met estimated demand in 1980.

Long-Range Goals

Population Goal

1) Maintain current supplies.

User Goal

1) Promote increased angler use.

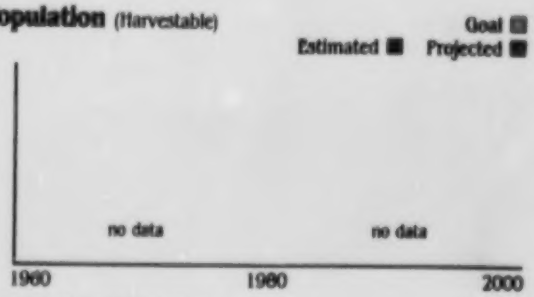
Habitat Goal

1) Maintain current habitat.

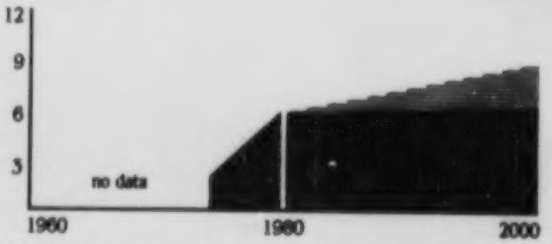
Data Sources

Recreational harvest information was obtained from two national surveys, 1975 and 1980, and from Divisional records. The number of harvestable fish is an estimate based on field personnel surveys.

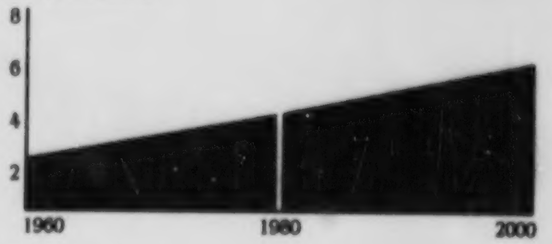
Population (Harvestable)



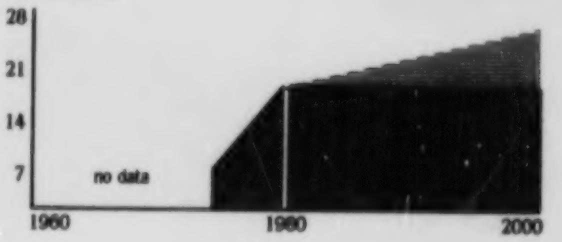
Recreation Days (Fishing)
Ten Thousands



Users (Anglers)
Hundred Thousands



Harvest (Fish)
Ten Thousands



Overview and History

Lake sturgeon have been caught in the North and South Saskatchewan and Brazeau rivers in Alberta. However, they are currently only relatively abundant in the South Saskatchewan River near Medicine Hat. Their decline in the other rivers appears due to pollution and hydrological changes to which these slow-growing, long-living fish cannot adjust (sexual maturity 15 years; life span - 50-100 years, largest sturgeon caught in Alberta, 105 lb and 61 inches long).

The capture of lake sturgeon was prohibited in Alberta in 1940 because they were considered to be an endangered fish. Currently a special licence is required which allows the holder to take two sturgeon annually: minimum length, one metre.

Current Supply and Use

Only 267 sturgeon licences were sold in 1980; 216 sturgeon were reported caught, of which 155 were reported released because they were undersized. Licence sales have increased from about 50 in mid-1970s to the present number.

Long-Range Goals

Population Goals

1) Maintain current supply.
2) Obtain more accurate information on supply.

User Goal

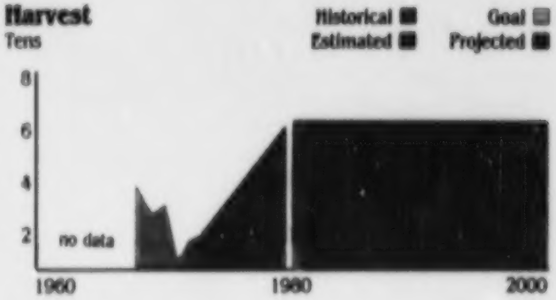
1) Continue to regulate use so as to limit harvests to a sustainable yield of adult fish.

Habitat Goals

1) Maintain current habitat in the South Saskatchewan River.
2) Increase habitat in those rivers which were historically important for lake sturgeons, as well as the South Saskatchewan River.

Data Sources

The Division has excellent records of the supply and harvests of lake sturgeon from the Oldman River system.



Other Fish

Overview

"Other fish" refers to the following: cisco (tullibee), shortjaw cisco, kokanee, longnose dace, flathead chub, lake chub, pearl dace, northern squawfish, redside shiner, northern redbelly dace, finescale dace, fathead minnow, emerald shiner, river shiner, spottail shiner, brassy minnow, silvery minnow, quill back, silver redhorse, northern redhorse, longnose sucker, white sucker, largescale sucker, mountain sucker, stonecat, burbot (maria, ling), trout-perch, brook stickleback, ninespine stickleback, Iowa darter, sauger, mottled sculpin, slimy sculpin, spoonhead sculpin.

Current Supply and Use

Tullibee, ling, large suckers:
In the years 1975 to 1980, Alberta's commercial fishermen harvested about 350 000 to 600 000 kg (770 000 - 1 320 000 lb) of tullibee, 50 000 to 100 000 kg (110 000 - 220 000 lb) of ling and 50 000 to 150 000 kg (110 000 - 330 000 lb) of large suckers annually. It is recognized that these fish are underharvested.

Bait fish:
The bait fish industry is becoming locally important in some areas of northeastern Alberta.

Other fish:
Supply and use, beyond use as forage for game fish, is unknown.

Long-Range Goals

Population Goal

1) Maintain current numbers while cooperating with other agencies, organizations or individuals to obtain more accurate population information.

User Goals

1) Encourage greater harvest of underharvested species such as tullibee, ling and suckers.
2) Develop bait fish criteria to provide adequate stock for predators.

Habitat Goal

1) To maintain current habitat while cooperating with other agencies, organizations or individuals to obtain more accurate habitat information.

Data Sources

Harvests were recorded by Divisional field personnel during commercial harvests.

Mammals

Overview and History

Moose are found in the boreal northlands and in the foothills of Alberta. The best habitat in those areas consists of a mixture of young deciduous stands (aspen, willow), muskeg and coniferous forest. Densities in these habitats vary from an average of fewer than 0.30 moose per square kilometre in far northern ranges to highs of one to about two per square kilometre in productive areas such as the Edson, Grande Prairie and St. Paul areas.

Moose populations in the far northern ranges are influenced mainly by weather, predation, ticks and the amount of available habitat, while more southerly populations must contend with habitat changes by man, predation, ticks and hunting pressure.

Current Supply and Use

The current supply is estimated at 118 000 moose. Moose hunting provides roughly 330 000 recreation days annually for about 60 000 licenced hunters who harvest an estimated 12 000 moose per year. Furthermore guiding moose hunters is an important economic use. An additional estimated 6 000 + animals are taken per year legally by Treaty Indians.

On a provincewide basis, there are enough moose, assuming Alberta hunters are satisfied with the present rate of success. However, the problem is one of distribution; accessible areas can be overharvested while inaccessible areas are underharvested.

Long-Range Goals

Population Goal

1) Increase the provincial population to 150 000 animals.

User Goal

1) Maintain the number of moose in heavy-use areas.
2) Encourage a better distribution of hunters.

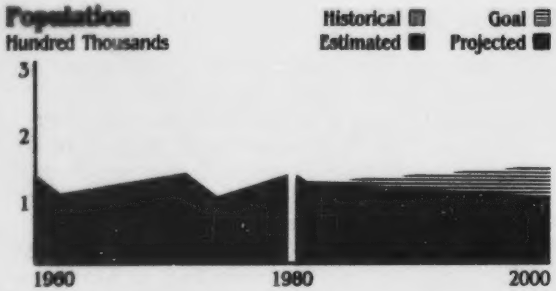
Habitat Goal

1) Maintain and enhance habitat within the 430 000 square kilometres (166 000 square miles) of current moose range. About 50 per cent of this range is in northern Alberta, supporting low densities, 30 per cent in the St. Paul-Lesser Slave Lake-Grande Prairie-Edson belt, dependent on habitat and year; and the remainder is in the foothills and fringe agricultural areas.

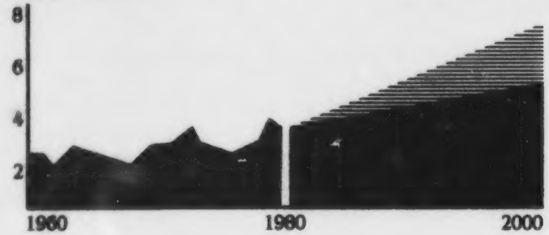
Data Sources

Moose populations were based on aerial surveys flown in selected areas annually; on some intensive representative area studies (Swan Hills study, Rochester study, Fort McMurray study); and on field observations by Divisional personnel. Harvest and recreation estimates came from a 1979-80 fiscal year questionnaire, sent to 10 per cent of the general hunting population, and from other Divisional records. Hunter data is from recorded licence sales while habitat and range area calculations were based on aerial and field observations by Divisional personnel.

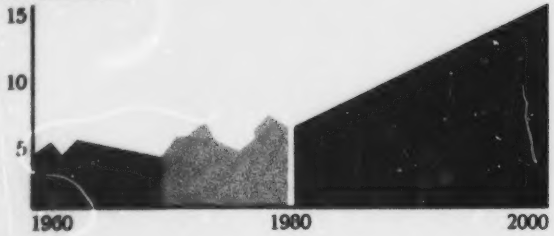
Population
Hundred Thousands



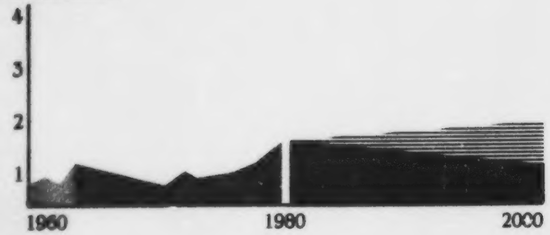
Recreation Days (Hunting)
Hundred Thousands



Users (Hunters)
Ten Thousands



Harvest
Ten Thousands



White-Tailed Deer

Overview and History

White-tailed deer are common in the agricultural and fringe-agricultural areas of the province. Historically, mule deer occupied this area but they retreated to the foothills and to the river valleys of the prairies as land was cleared. Clearing practices, combined with more legumes and a series of mild winters, helped to increase the number of whitetails.

Whitetails increased from about 60 000 animals in the 1940s to the current 118 000 animals.

Current Supply and Use

Currently, about 118 000 white-tailed deer winter in Alberta. Deer hunting provides roughly 250 000 recreation days each year for about 60 000 hunters who harvest an estimated 12 000 deer. About as many animals die annually through a combination of illegal kills, road kills, harassment, and predation. An unknown number are harvested legally by Treaty Indians.

Deer are also important to Albertans for viewing. In a 1976 survey, deer were listed as the number-one animal in the like-to-see category and number-two in the like-to-see-more-of category.

On a provincial basis, certain areas are over-harvested while other areas are underharvested because of access and landowner-hunter problems.

Long-Range Goals

Population Goals

1) Maintain an average population of 125 000 animals.
2) Increase numbers in high viewing and hunting demand areas.

User Goals

1) Increase viewing opportunities in natural settings.
2) Promote greater harvests in underharvested areas.
3) Continue to promote programs which will create positive landowner-hunter-viewer relationships.
4) Continue with deer damage prevention and compensation programs to farmers.

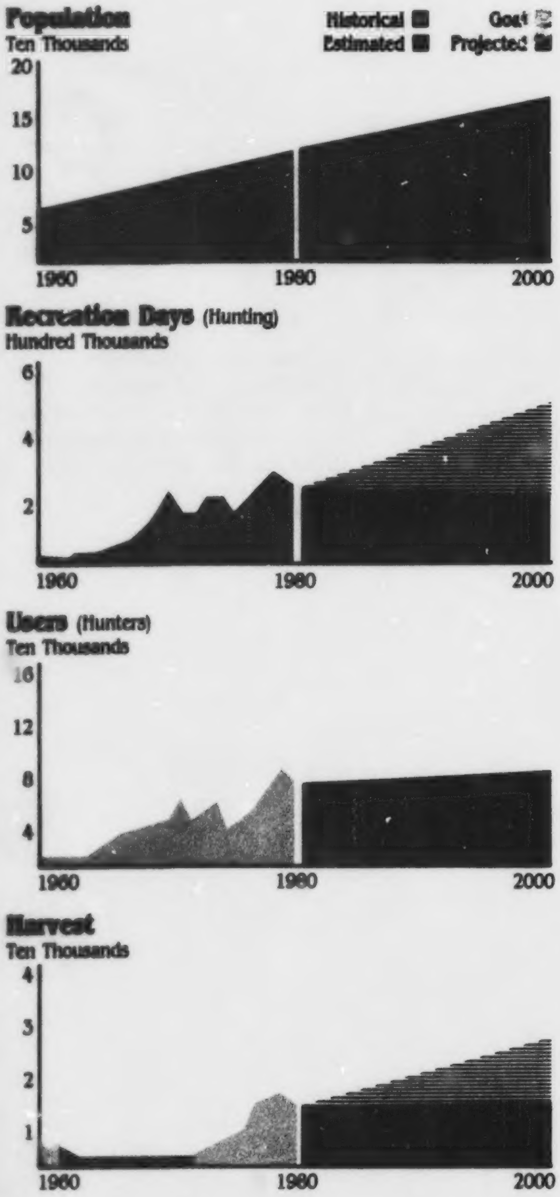
Habitat Goals

1) Maintain the current range of about 575 000 square kilometres (220 000 square miles) and the current quality and quantity of habitat within that range. Deer are abundant on about 10 per cent of this range, occur regularly on about 40 per cent, and occur sporadically on 50 per cent.
2) Continue to promote cooperative habitat retention programs with private landowners in the aspen parkland (for example, the Red Deer County Buck for Wildlife program).

Data Sources

Population estimates were based on aerial surveys of selected areas while harvest, hunters, and hunter day estimates were based on the results of a 1979-80 fiscal year questionnaire sent to 10 per cent of the general hunting population, and on Divisional records. Habitat and range area calculations were based on Landsat photos, aerial surveys and field observations.

Large Ungulates



Overview and History

Mule deer once were widely distributed in the province but are now most plentiful in the foothills and in the river valleys of the prairies. Mule deer population declines in southern and central Alberta were primarily the result of land clearing for farming and subdivision.

Mule deer have declined from about 175 000 animals in the 1950s to the current estimate of 73 000.

Current Supply and Use

Currently, about 73 000 mule deer winter in Alberta. Mule deer hunting provides roughly 240 000 days of recreation every fall for about 54 000 hunters who harvest about 12 000 deer. About as many animals are lost annually through the combination of illegal kills, road kills, harassment, and predation. An unknown number are harvested legally by Treaty Indians.

Albertans like to see deer. They were listed as the number-one animal in the like-to-see category and number-two in the like-to-see-more-of category in a 1976 survey.

The estimated demand for mule deer exceeds supply.

Long-Range Goals

Population Goals

1) Increase the provincial population to 100 000 animals.
2) Increase populations in areas of high demand for viewing and hunting.
3) Re-establish mule deer on some historical ranges.

User Goals

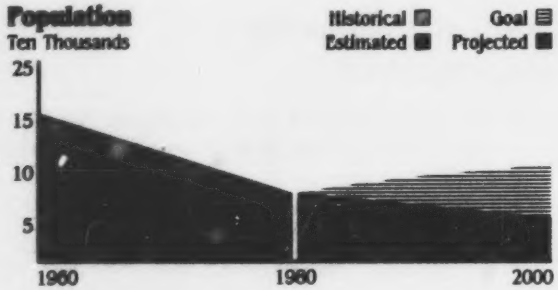
1) Increase viewing opportunities in natural settings.
2) Continue to promote programs which will create positive landowner-hunter-viewer relationships.
3) Continue with deer damage prevention and compensation programs to farmers.

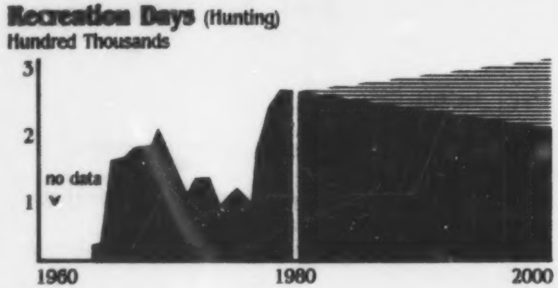
Habitat Goals

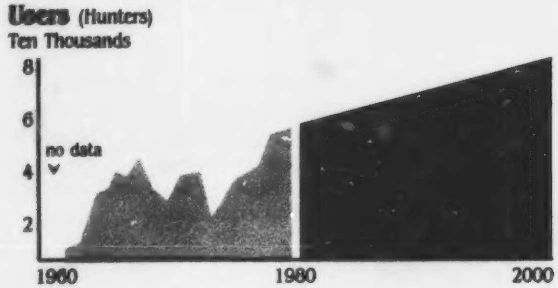
1) Maintain the current range of about 595 000 square kilometres (230 000 square miles) and the current quality and quantity of habitat within that range. Mule deer occur regularly on about 50 per cent of that range, occur sporadically on 30 per cent, and are found in isolated pockets in the remainder of the range.
2) Promote cooperative habitat retention programs with private landowners.

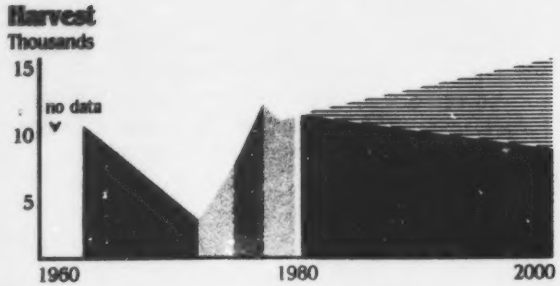
Data Sources

Population estimates were based on aerial surveys of selected areas while harvest, hunters, and hunter day estimates were based on the results of a 1979-80 fiscal year questionnaire, sent to 10 per cent of the general hunting population, and on Divisional records. Habitat and range area calculations were based on Landsat photos, aerial surveys and field observations.


Population
Ten Thousands
Historical
Goal
Estimated
Projected
25
15
10
5
1960
1980
2000


Recreation Days (Hunting)
Hundred Thousands
3
2
1
no data
1960
1980
2000


Users (Hunters)
Ten Thousands
8
6
4
2
no data
1960
1980
2000


Harvest
Thousands
15
10
5
no data
1960
1980
2000

Overview and History

Elk are limited presently to the foothills and mountains of Alberta. They are most plentiful where meadows and aspen groves break up contiguous forest cover. Winter ranges are often limited to grassy slopes which face south and west.

In the early 1900s the numbers of elk had dwindled to fewer than 400 animals in only four herds. From this low point numbers increased and peaked in the early 1960s, were reduced deliberately in an attempt to reduce overgrazing and livestock conflicts, and have risen again to present levels.

Current Supply and Use

About 15 000 elk now winter in Alberta. About half are found south of the Bow River. About 30 000 hunters buy licences and enjoy more than 132 000 days of recreation while harvesting about 2 000 elk. The projected number of Albertans wanting to hunt elk is probably higher than licences sold because hunting in some areas is restricted through authorizations and/or draws.

Viewing demand, by those who want to see elk on relatively open range for photography, study or general interest while hiking, driving or camping, is high, especially near urban areas such as Calgary. For example, elk are listed as number four in the like-to-see category and number six in the like-to-see-more-of category in a 1976 survey.

The present supply of elk falls short of the desired number by 30 to 60 per cent, depending on whether hunters are happy with 10 or 20 per cent success rates and depending on the number reserved exclusively for viewing.

Long-Range Goals

Population Goal

1) Increase the number of elk to 30 000 animals. This is desirable in order to meet demand; however, it can only be achieved if:

   a) elk damages to haystacks can be resolved;
   b) elk can be re-established on some historical ranges presently vacant especially those north of the Bow River.
   c) harvest and harassment outside of hunting seasons are eliminated or minimized.

User Goals

1) Increase viewing opportunities near urban centres, especially Calgary.
2) Increase the number of recreation days of hunting as allowed by herd expansion.
3) Continue with damage prevention and compensation programs to farmers.

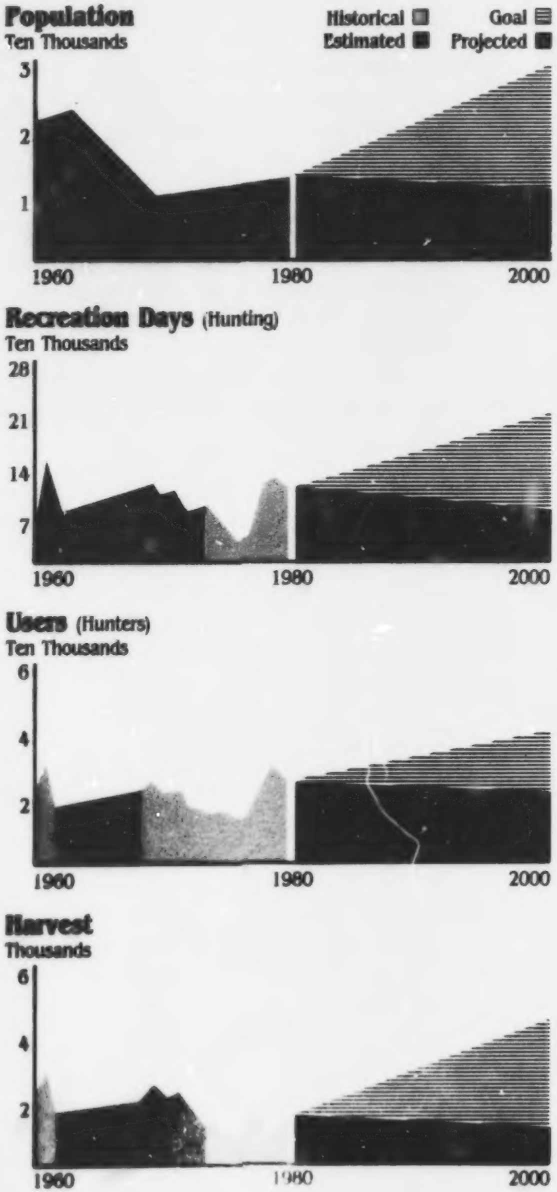
Habitat Goals

1) Protect and enhance habitat within the current range of about 108 000 square kilometres (41 700 square miles). Elk are abundant in about four per cent and scattered in the remaining 96 per cent of their range.
2) Enhance habitat in areas historically occupied by elk in order to allow for population expansion.

Data Sources

Elk populations were estimated on the basis of aerial and ground surveys of selected areas. Harvest, hunter numbers and recreation estimates came from a 1979-80 questionnaire, sent to 10 per cent of the general hunting population, plus from Divisional records. Habitat and range area calculations were based on aerial survey data.

Large Ungulates



Overview and History

Antelope occur in the prairie grasslands of Alberta. The number of antelope which that area can support is limited mainly by winter weather and the amount of suitable habitat. A key factor is the amount of winter browse such as silver sagebrush and pasture sagewood. Alberta antelope presently winter on about 12 key winter ranges. Movements between Alberta-Saskatchewan and Alberta-U.S.A. also affect populations.

Antelope numbers have fluctuated greatly in the past from an estimated low of 1 000 animals in the period after the 1906 winter, to a high of 24 000 in 1964, to a decline of 8 500 after the 1964/65 winter and to about 7 400 after the 1977-78 winter. Interest in hunting and viewing antelope has increased steadily with increased human population growth in Alberta.

Current Supply and Use

About 15 000 antelope winter in Alberta. About 1 000 - 2 000 hunters harvest about 800 antelope each year, involving 2 000 days of recreational hunting. The number of prospective hunters who apply for a licence are more than 7 000, but this demand far exceeds the harvestable supply of animals. The actual demand is even greater because a successful applicant is only allowed to apply every third year.

Viewing demand (as measured by a 1976 random sample questionnaire) also appears to be high; antelope were listed as the number-three animal in the like-to-see-more-of category.

Long-Range Goals

Population Goal

1) Maintain pronghorn antelope numbers between 10 000 to 18 000 animals.

   This is the carrying capacity of the present range. Achieving this goal will depend on meeting the habitat goal.

User Goal

1) Spread the harvest use over more users.

   Some possible ways to do this are bow hunting, muzzleloading rifle hunting, designated vehicle routes.

Habitat Goal

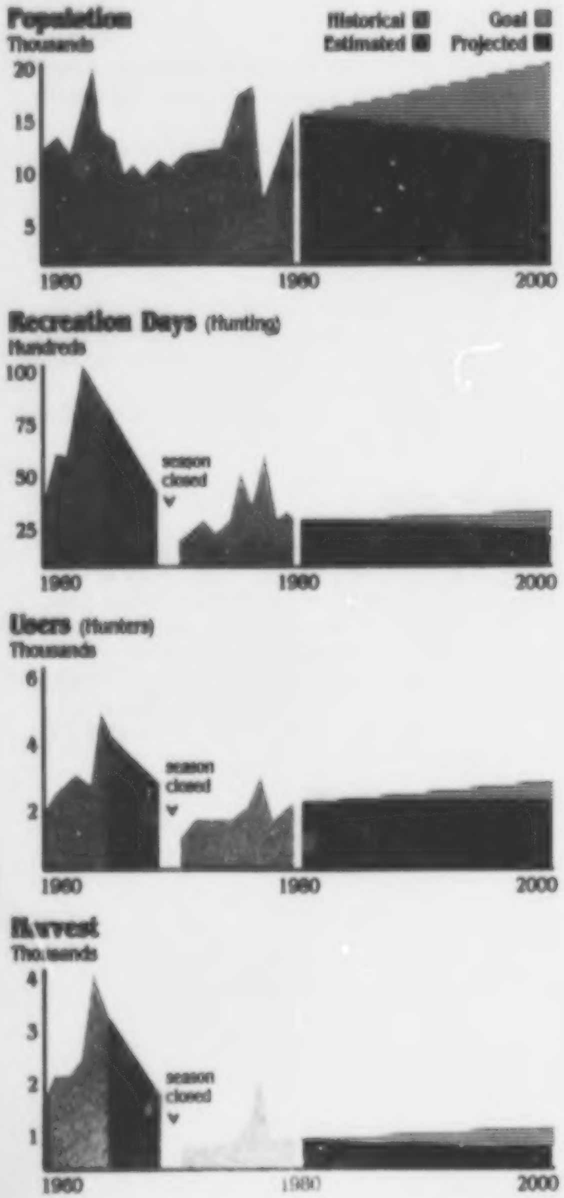
1) Maintain, and where possible, enhance the present year-round habitat of about 15 000 square kilometres (5 800 square miles), with emphasis on the winter habitat of 3 037 square kilometres (1 173 squre miles) in at least its present condition.

   Since some of this range is on private land, this will require programs mutually beneficial to the landowner and the user.

Data Sources

Population estimates are derived from annual aerial surveys. Figures for harvest, hunter numbers and recreation days were based on incisor bar related questionnaires. Habitat and range area calculations were based on general aerial surveys and field observations plus some intensive University-related research studies.

Large Ungulates



Overview and History

Alberta's bighorns are currently limited to about 100 small overwintering sites located in the alpine and subalpine zones of the Rocky Mountains. Bighorns are not well adapted to deep or crusted snow and are forced to winter within the confines of southern exposures or wind-blown slopes next to escape terrain.

Bighorn numbers have ranged from an estimated high of 10 000 in the 1800s to a low of 1 500 in the early 1950s. Good management has allowed bighorn numbers to increase slowly since then.

Current Supply and Use

About 6 000 bighorn sheep now winter in Alberta but about 1 200 of these move into the national parks, sanctuaries and wilderness areas during the summer and fall. In most areas bighorn populations are at or near the maximum levels that can be sustained by the present extent and condition of their range.

More than 3 000 licences are sold to hunters who spend more than 22 000 recreation days harvesting about 250 legal-size rams. About 500 of the licences issued were for non-trophy sheep permits and about 200 non-trophy sheep were harvested. The demand for trophy sheep far exceeds the supply.

Viewing demand as measured by a 1976 random sample questionnaire indicated that sheep were number six of all animals in the like-to-see category. Outfitting is a significant economic use of the bighorn as well.

Long-Range Goals

Population Goal

1) Maintain the current levels of 6 000 overwintering bighorns. This can only be achieved if:
   a) habitat and management goals are met.

User Goals

1) Manage for legal rams and harvest non-trophy sheep as needed to keep the population at the carrying capacity of the range.
2) Investigate the possibility of providing viewing opportunities such as vehicle pullouts and observation posts.

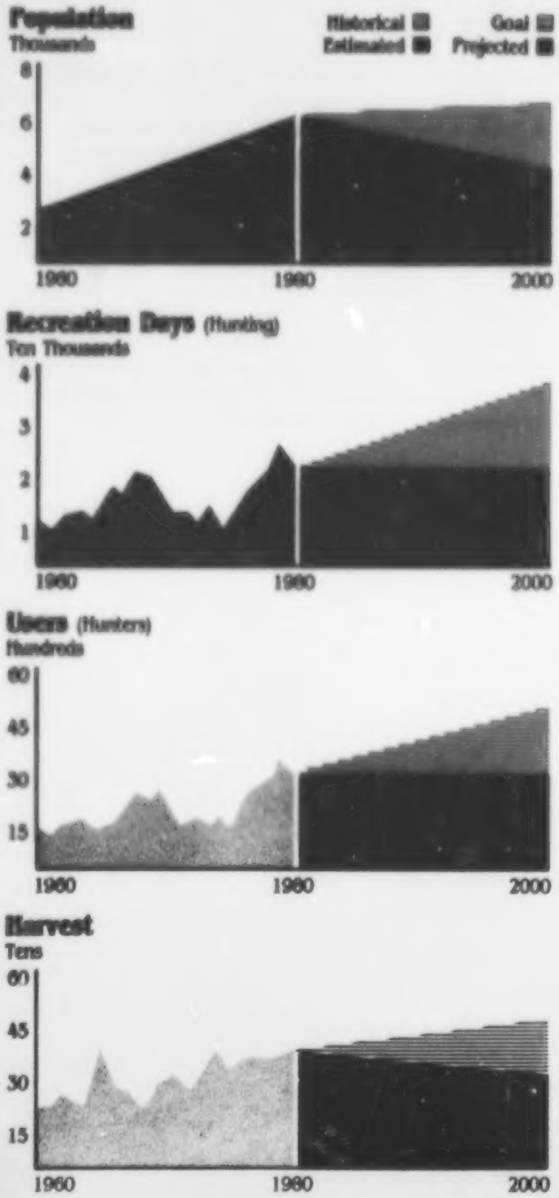
Habitat Goals

1) Secure the present land base of about 32 000 square kilometres (12 350 square miles) with emphasis on the 100 overwintering sites, which total about 6 000 square kilometres (2 300 square miles).
2) Maintain populations on the present land base through habitat enhancement.

Data Sources

Population estimates were based on aerial surveys, field observations and several intensive capture-marking programs of selected herds: Ram Mountain, Sheep River, Yarrow Creek complex. Harvest, hunter numbers and recreation level figures came from the compulsory registration program for trophy rams, and the 1979-80 hunter questionnaire for non-trophy sheep. Habitat and range calculations were based on aerial surveys and field observations.

Large Ungulates



Overview and History

About 50 per cent of the goats in Alberta are currently found in the Willmore Wilderness Park. Other significant populations occur in the Siffleur and Ghost Wilderness areas and the headwater areas of the Kananaskis, Elbow, Sheep and Highwood river drainages.

Favored habitat in these areas is a combination of sheer cliffs, which are used as escape routes, and grassy meadows and benches.

Goat numbers ranged from 3 000 to 4 000 in the early 1960s, declined to about 1 000 animals in the late 1960s, and have risen slightly since. The decline in the 1960s was caused by a combination of increased human access to their habitat, with increased disturbance, hunting pressure and industrial activities, mainly mining, occurring.

Current Supply and Use

The current supply is estimated to be about 1 500 to 2 000 animals. Goat hunting is restricted: out of about 500 applicants only 40 received permits and each spent about 13 days for a total harvest of approximately 30 goats. The hunting demand is higher than the current number of applicants, since successful applicants can only apply for a permit every other year.

Goats were listed as number 11 on the like-to-see category and number 18 in the like-to-see-more-of category in the 1976 random survey of Alberta residents.

Long-Range Goals

Population Goals

1) Increase goat numbers to 5 000 animals.
2) Allow goats to re-establish themselves on their historic range, or assist re-establishment with transplants.

User Goals

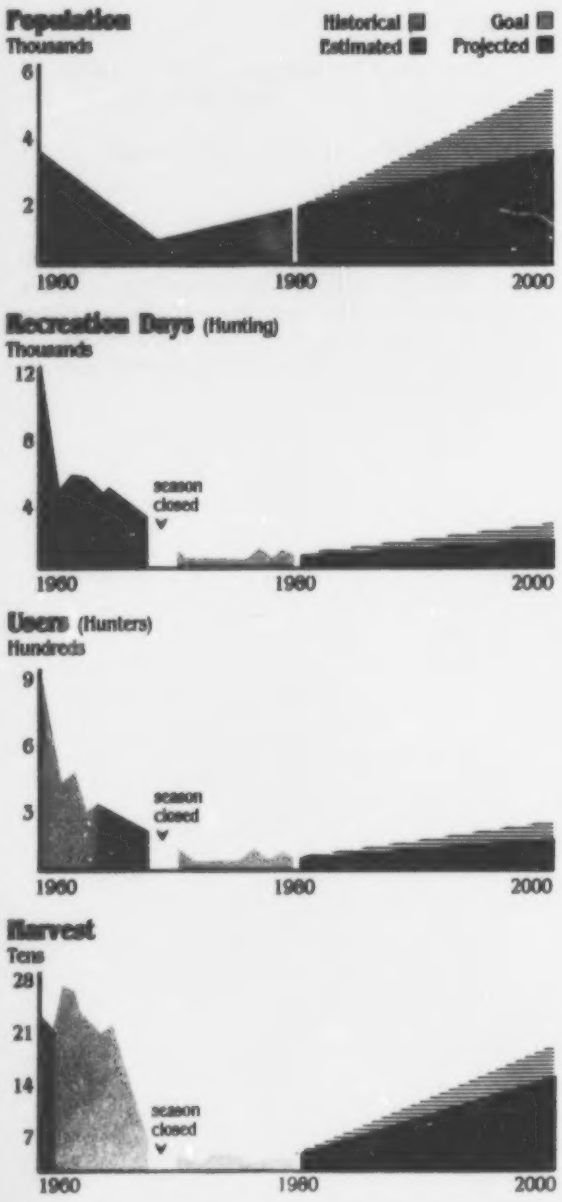
1) Attempt to increase viewing opportunities without encouraging harassment.
2) Increase hunting opportunities as goat populations increase.

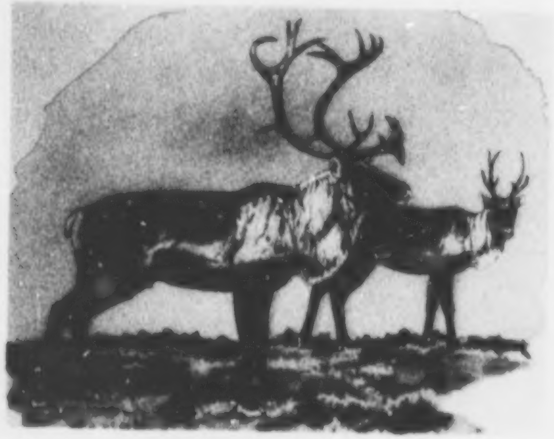
Habitat Goals

1) Maintain the current occupied range of about 5 300 square kilometres (2 046 square miles).
2) Maintain the currently vacant historical goat range, about 4 300 square kilometres (1 660 square miles).
3) Enhance the habitat base as or when required.

Data Sources

Population estimates were based on annual aerial surveys. The harvest, number of hunters and total recreation days were taken from compulsory registration surveys of all mountain goat hunters. Habitat and range areas were based on known winter and summer ranges as determined by aerial surveys and field observations.


Population
Thousands
Historical
Estimated
Goal
Projected
6
4
2
1960
1980
2000
Recreation Days (Hunting)
Thousands
12
8
4
season closed
1960
1980
2000
Users (Hunters)
Hundreds
9
6
3
season closed
1960
1980
2000
Harvest
Tens
28
21
14
7
season closed
1960
1980
2000



Overview and History

Historically, caribou ranged over the whole boreal northlands; however, caribou are currently limited to localized areas. Caribou need extensive areas of mature coniferous forests, particularly during the winter season. They require a good supply of lichen for winter food. Thus fire, logging and settlements impact this species.

Caribou numbers have decreased during recent years with most of the decrease occurring in the northwest populations. Therefore, hunting was restricted in 1979 and the season was completely closed in 1980.

In the 10-year period prior to the season being closed, annual licence sales averaged 300 to 400 with about 20 to 25 caribou harvested a year.

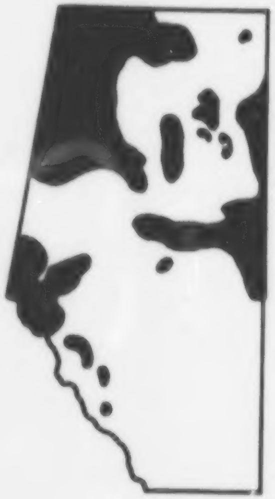
Current Supply and Use

The current supply is estimated to be fewer than 4 000 animals. Viewing and Treaty Indian hunting are the only current uses.

Long-Range Goals

Population Goal

1) Increase the total provincial caribou population to a minimum of 5 000 animals. This can only be achieved if:
   a) current and historically important caribou ranges can be protected.



User Goals

1) Restrict uses to present uses until populations increase.
2) Seek management cooperation with Treaty Indians in order to achieve a temporary reduction in harvests.
3) Re-institute recreational hunting when populations can sustain an annual harvest.

Habitat Goals

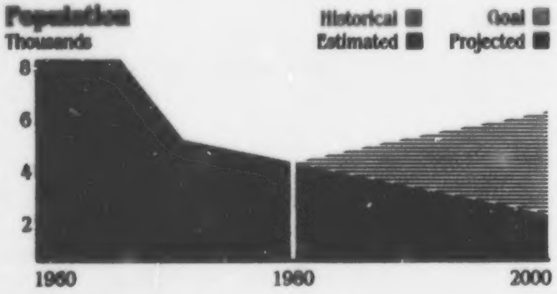
1) Protect currently occupied habitat of about 166 000 square kilometres (64 000 square miles) within the current range.
2) Maintain historically-important caribou ranges.

Data Sources

Population estimates were based on a combination of aerial surveys and ground tracking observations. These estimates are difficult to obtain since woodland and mountain caribou inhabit dense forest cover. The number of hunters was based on licence sales while harvest figures were based on compulsory registration.

Large Ungulates

Population
Thousands



Recreation Days (Hunting)
Thousands

Users (Hunters)
Hundreds

Harvest
Tens

Overview and History

Black bear are found throughout the foothills and in the forested areas north of the North Saskatchewan River. They are mostly associated with mixed stands of poplar, spruce, willows and shrubs. They are usually found in greatest number along watercourses and other forest edges.

Reliable historical data are not available but popular consensus suggests that black bear numbers have increased in the last 20 years, especially in those areas where humans have increased forest edge through agriculture and industry related clearing.

Current Supply and Use

Current bear numbers are estimated at 50 000 to 60 000 animals. About 16 000 bear hunting licences were sold in the fiscal year 1980/81. Hunting by sportsmen, trappers, landowners, and illegal hunting, results in a combined harvest estimated at 5 000 bears per year.

Public attitudes toward black bears range from acute intolerance to extreme protectiveness. Complaints to the Fish and Wildlife Division involving black bears number around 1 000 annually. Most complaints involve campgrounds, livestock or beeyards.

Long-Range Goals

Population Goal

1) Maintain a maximum of 50 000 to 60 000 bears.

User Goals

1) Increase the recreation days of hunting.
2) Increase the harvest.
3) Reduce undesired bear-human interactions.

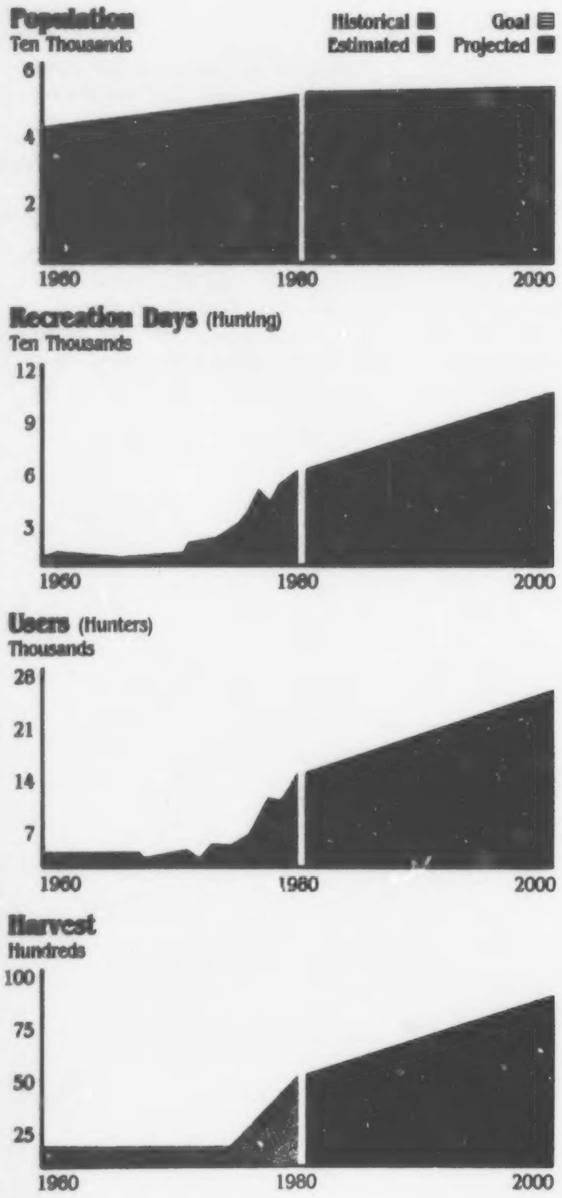
Habitat Goal

1) Maintain habitat capable of supporting a maximum of 50 000 to 60 000 bears.

Data Sources

Population estimates were based on three intensive capture-recapture studies in three representative areas: Cold Lake, Kananaskis Country and Swan Hills. Harvests and recreation information was taken from a 1981 bear hunting questionnaire survey conducted by the Department of Agricultural Economics, University of Alberta and from Divisional records.

Large Carnivores



Grizzly Bear

Overview and History

Grizzly bear now exist only in wilderness areas, with the largest number found in the foothills and subalpine belts of the Rocky Mountains. Populations have declined during the 1960s but have increased since the 1970s.

Current Supply and Use

The current estimate in Alberta outside the national parks is 500 to 1 000 animals. Hunting is allowed and more than 1 000 licences were sold in the fiscal year 1980/81 and 21 bears were harvested.

Interactions between grizzlies and humans resulted in 85 complaints to the Fish and Wildlife Division in the fiscal year 1980-81.

Long-Range Goals

Population Goal

1) Retain a minimum of 1 000 grizzly bear in Alberta including those populations that seasonally inhabit both Alberta and adjacent National Parks, and British Columbia.

   The key to achieving this goal is to retain sufficient wilderness habitat for these reclusive, large-range animals.

User Goals

1) Minimize negative bear-human interactions, emphasizing preventive rather than reactive measures.
2) Increase recreational hunting opportunities, if populations allow.
3) Encourage non-consumptive use of grizzly bear in selected areas.

Habitat Goal

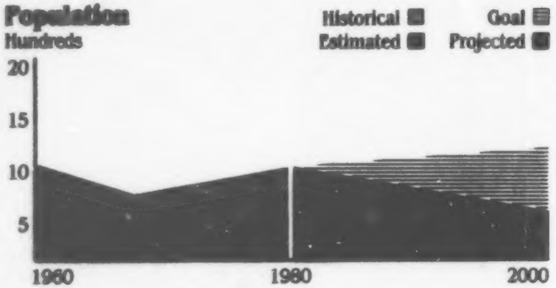
1) Maintain the 106 000 square kilometres (41 000 square miles) of grizzly range with emphasis on protecting key habitats.

Data Sources

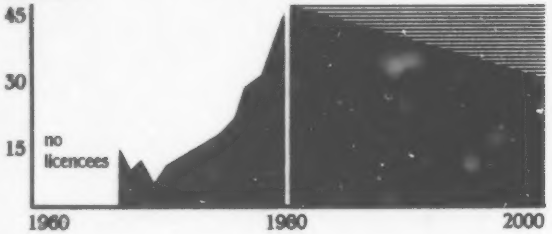
Population estimates were based on intensive capture-recapture studies in several representative areas: Swan Hills, Kananaskis Country, Berland River and Pinto Creek. Harvests and recreation information were taken from a 1981 bear hunting questionnaire survey conducted by the Department of Agricultural Economics, University of Alberta and from Divisional records.

Large Carnivores

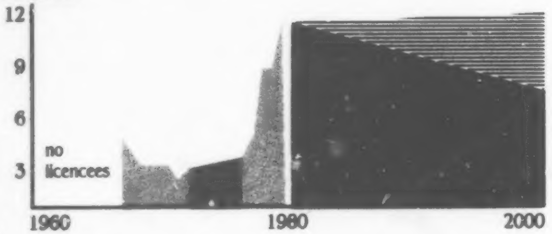
Population
Hundreds



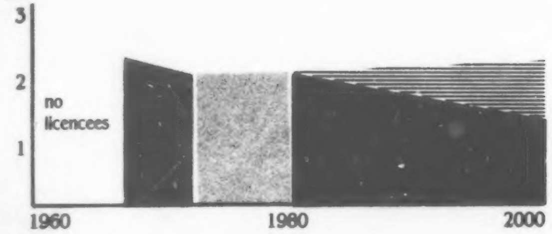
Recreation Days (Hunting)
Hundreds



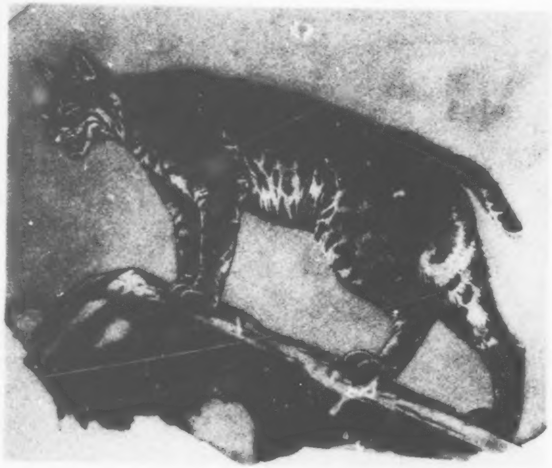
Users (Hunters)
Hundreds



Harvest
Tens



Bobcat



Overview and History

Bobcat are restricted to wooded coulees and river valleys in the short-grass prairie region of southeastern Alberta. Bobcats have never been numerous in Alberta, apparently limited by the winter climate and the amount of suitable habitat. Bobcat were not protected until 1962.

Current Supply and Use

The current population is not known. However, harvest levels have always been very low in Alberta, generally fewer than 50 pelts except for the isolated peak of 212 pelts recorded between 1965 and 1966. The Fish and Wildlife Division suspects that some of the pelts that year were brought in from outside Alberta.

Long-Range Goals

Population Goal

1) Maintain current populations and refine population estimates.

User Goal

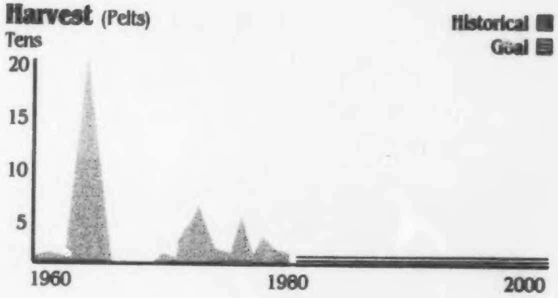
1) Maintain harvest at a level in line with populations.

Habitat Goal

1) Maintain current habitat.

Data Sources

Historical data on fur production and average pelt prices were taken from Statistics Canada's annual reports on "Fur Production" (Catalogue 23-207). Divisional records supplied the remaining information. Fur prices are winter-long average prices paid by major fur auctions, while number of pelts is derived from export permits for royalties, fur sales, etc.



Overview and History

Cougar are inhabitants of mixed conifer/grassland assemblages in the Rocky Mountains and foothills of Alberta. Reliable data on historic cougar numbers do not exist.

Current Supply and Use

The total provincial population, excluding the national parks, is estimated to be about 1 000 animals.

About 200 cougar licences are sold annually and about 40 cats are taken by the licence holders.

Long-Range Goals

Population Goal

1) Maintain the current population estimated at 1 000 cougars and refine population information.

User Goal

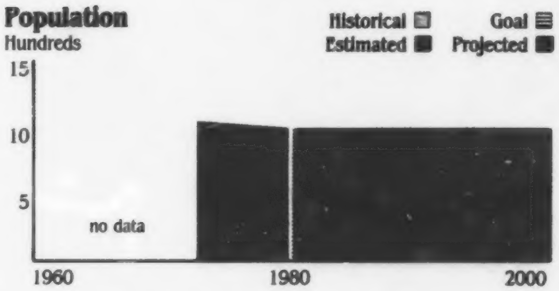
1) Maintain hunting on a sustained yield basis.

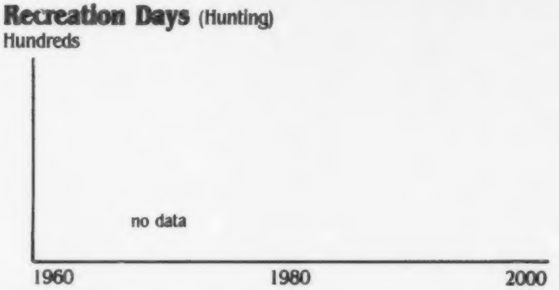
Habitat Goal

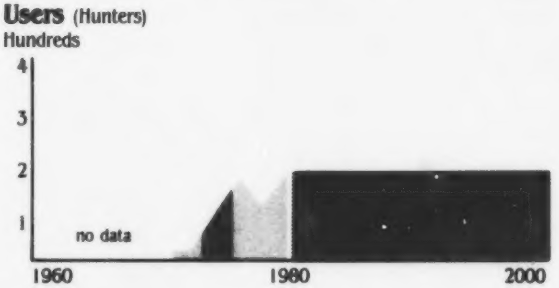
1) Maintain habitat capable of supporting the population and user goals.

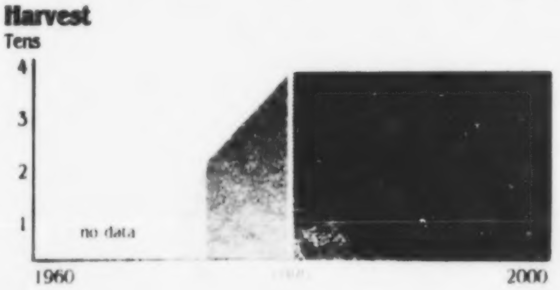
Data Sources

Population estimates were based on an intensive capture and marking program in the Kananaskis Country. Harvest data was supplied by the annual program of compulsory registration of hunter kills.









Overview and History

Coyotes currently range over most of Alberta. Historically, the coyote was an animal of the plains and has only moved into other areas as land was cleared. Northern coyote populations fluctuate with the cycle of the snowshoe hare but prairie and aspen parkland populations are not known to be cyclic.

Coyotes have been trapped for their pelts, hunted for recreation and removed as pests. Annual numbers of coyote pelts marketed in Alberta were high in the early to mid-1920s, peaking at 57 000 pelts; lower in the 1930s, peaking at 30 000 pelts; dropped to very low levels in the 1950s, and increased slowly through the 1960s and 1970s. Harvests have been highly correlated with pelt price. Non-commercial harvests are largely unknown. It is known that predator specialists with Alberta Agriculture killed an estimated half a million coyotes in the 25 years between 1951 and 1976.

Current Supply and Use

The current population is not known. Coyotes, like foxes and wolves, are sought after for viewing and listening to, fur harvesting and recreational hunting. Coyotes are also considered by some to be a nuisance. Past harvest records indicate that the current provincial population can sustain commercial harvests in the order of 30 000 pelts annually. About 35 000 pelts were marketed in the fiscal year 1979/80, bringing cash returns of about $2.5 million.

Long-Range Goals

Population Goal

1) Maintain the provincial population at present levels.

User Goals

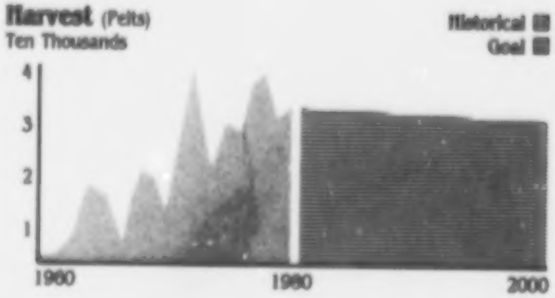
1) Allow sustained yield commercial fur harvests of about 30 000 pelts a year.
2) Encourage greater harvests in the forest populations while regulating harvests of southern populations.
3) Control problem coyotes on a local basis within an overall provincial management program.
4) Encourage viewing use and legal recreational hunting use and reduce illegal hunting.

Habitat Goal

1) Maintain habitats capable of sustaining the population and the harvest goals.

Data Sources

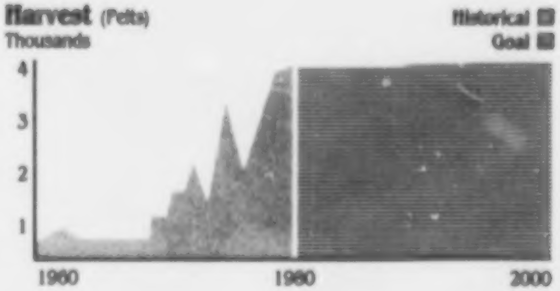
Historical data on fur production and average pelt prices were taken from Statistics Canada's annual reports on "Fur Production" (Catalogue 23-207). Divisional records supplied the remaining information. Fur prices are winter-long average prices paid by major fur auctions while number of pelts is deived from export permits for royalties, fur sales, etc.



Fox

Overview and History

Fox were common to abundant in the forested regions of the province prior to the rabies outbreak of 1952. These populations have not recovered to pre-outbreak levels. In contrast, the southern (plains) populations have increased in range and numbers in the past 20 years. Harvests showed three prominent peaks (20 000 to 48 000 pelts) at 10 year intervals during the 1920s to 1940s. About 55 000 foxes were killed during the rabies control program from 1952 to 1955.



Current Supply and Use

Fox population numbers are not known. Fox, like coyotes and wolves, are sought after for viewing and listening to, fur harvesting and recreational hunting. They are also considered by some to be a nuisance. About 3 700 fox pelts were sold in the fiscal year 1979/80 for a return to trappers of about $260 000. The southern (plains) population is subject to intense hunting pressure while northern populations could probably sustain an increased harvest. However, fox numbers and sustainable harvests cannot be accurately estimated at this time.

Long-Range Goals

Maintain available habitat at current levels while trying to define more desirable and sustainable population and harvest levels.

Data Sources

Historical data on fur production and average pelt prices were taken from Statistics Canada's annual reports on "Fur Production" (Catalogue 23-207). Divisional records including verbal reports by trappers, supplied the remaining information. Fur prices are winter-long average prices paid by major fur auctions while number of pelts is derived from export permits for royalties, fur sales, etc.

Overview and History

Lynx numbers follow the cycle of the snowshoe hare. Harvests are influenced by that cycle and by pelt prices. Prior to the fiscal year 1959/60, lynx harvests were low, possibly reflecting overharvesting in previous years; then they increased in the early 1960s and remained quite high even through the cyclic population decline in the mid-1970s. This harvest rate was due to greater trapper effort because of higher pelt prices.

Current Supply and Use

Lynx populations follow the snowshoe hare cycle which peaks around the turn of each decade; this is 1960, 1970, 1980. High pelt prices increased trapper effort in the last cycle so it is thought that lynx may have been overharvested. About 12 500 pelts were sold in the fiscal year 1979/80, returning over $2.8 million to trappers, only second in dollar value to beaver that year.

Long-Range Goals

Population Goal

1) Maintain a minimum of 16 000 breeding lynx at cyclic lows. Current populations at cyclic lows are estimated to be less than half that number.

User Goal

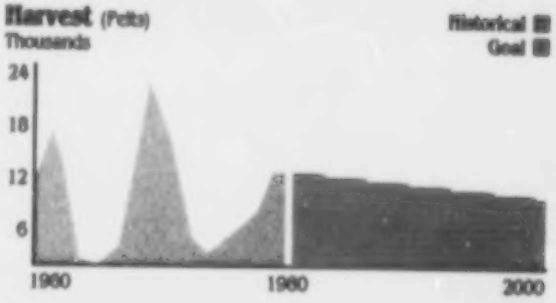
1) Regulate harvests carefully during declines and lows of the cycle to produce the greatest sustained-yield harvest.

Habitat Goal

1) Maintain habitat capable of sustaining a minimum of 16 000 breeding lynx at cyclic lows.

Data Sources

Historical data on fur production and average pelt prices were taken from Statistics Canada's annual reports on "Fur Production" (Catalogue 23-207). Divisional records, which include results of a long-term study by the University of Wisconsin, Madison at Rochester, Alberta, supplied the remaining information. Fur prices are winter-long average prices paid by major fur auctions while number of pelts is derived from export permits for royalties, fur sales, etc.



Overview and History

Wolves are most common in the foothills and in northern areas of Alberta. Wolf numbers have fluctuated from "wolves without numbers" as reported by Anthony Henday in 1754, followed by a major decline in 1880-1920, in turn followed by an increase until the anti-rabies campaign in 1952-56 when an estimated 5 400 wolves were killed. They then increased to about 5 000 by the early 1970s and have remained relatively substantial since then.

The number of wolf pelts marketed has varied from 23 to 880 per year since the early 1950s.

Current Supply and Use

The current supply is estimated to be about 5 000 animals. Trappers, hunters and landowners annually harvest about 500 wolves, of which, registered trappers harvest 300 to 400. Trappers should be able to harvest about 30 per cent of the provincial population. Wolves therefore, could sustain greater harvesting in some areas.

A mean of 135 complaints were received annually during the years 1972-80 and an average of 88 wolves were removed annually by government control.

Long-Range Goals

Population Goal

1) Maintain provincial populations at 4 000 to 5 000 wolves.

User Goals

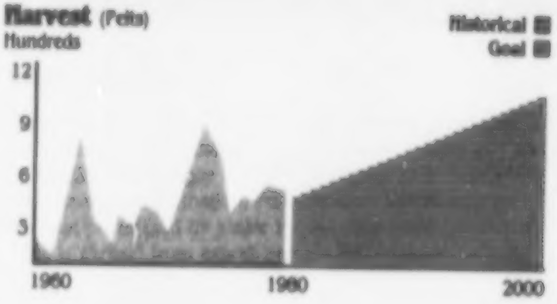
1) Encourage trappers to harvest about 30 per cent of the provincial population annually.
2) Encourage recreational hunting of wolves.
3) Manage local populations to reduce livestock depredations.
4) Reduce wolf predation on some local big game populations.
5) Encourage non-consumptive use of wolves in selected areas.

Habitat Goal

1) Maintain wolf populations in their current range of about 404 000 square kilometres (156 000 square miles) in Alberta at about one wolf/80-100 km².

Data Sources

Population estimates were based on capture and marking programs in three representative study areas: Swan Hills, Simonette River and Fort McMurray. Harvest data was obtained through fur sale and Divisional records.



Overview and History

The provincial range of badgers includes all of the southern plains and parklands north to about the North Saskatchewan River.

Between 1925 and 1930 very high harvests of badger were taken (5 000 to 17 000 yearly) for the fur trade. Those peak harvests coincided with relatively high pelt prices; badger hair was in demand for high-quality shaving brushes. Harvest decreased sharply after that period because of a combination of low populations and low pelt prices, and remained so until the sharp price increases in the 1960s and 1970s. The number of badger pelts sold has stabilized at around 2 000 in the last few years.

Current Supply and Use

Current populations are not accurately known. Current harvests of about 2 000 pelts supply a return to trappers of about $100 000 annually.

Long-Range Goals

Population Goal

1) Maintain, while more accurately determining, current populations.

User Goals

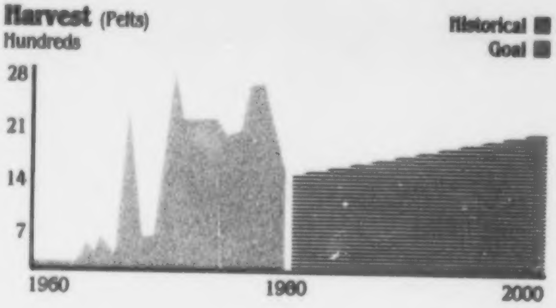
1) Maintain an annual harvest of about 2 000 pelts.
2) Expand awareness of the positive benefits of badgers in rodent control.

Habitat Goal

1) Maintain current habitat.

Data Sources

Historical data on fur production and average pelt prices were taken from Statistics Canada's annual reports "Fur Production" (Catalogue 23-207). Divisional records supplied the remaining information. Fur prices are winter-long average prices paid by major fur auctions while number of pelts is derived from export permits for royalties, fur sales, etc.



Overview and History

Beaver were abundant in treed areas of Alberta prior to the early fur trade but were so reduced by over-trapping that the 1907 Game Act closed the trapping season throughout the province and kept it closed until 1912. Trapping was carefully regulated until the fiscal year 1954/55 when beaver numbers had finally reached the point where an open season for resident trappers could be declared. The beaver population continued to increase during the 1960s and 1970s and now appears to have almost reached pre-19th century levels. Harvests climbed with populations until the fiscal year 1972/73 but then dropped behind as trappers switched to other species.

Current Supply and Use

About 110 000 beaver were harvested in the fiscal year 1979/80, providing about $4 400 000 of income to Alberta trappers. Beaver were the number-one fur for dollars returned in 1979/80. Current supplied could likely, with intensive management, sustain annual harvests of 125 000 beavers. This harvest would still allow beavers to continue their valuable service to Albertans in regard to water conservation, flood control and preserving suitable habitat for many other species, such as muskrat, mink, otter, brook trout and numerous kinds of waterfowl, plus providing hours of viewing enjoyment. However, high beaver populations without further management would also continue to irritate some landowners. Beavers sometimes build dams and store water where humans do not want water. In the fiscal year 1980/81, about 3 000 beaver-related complaints were received by the Fish and Wildlife Division, about 5 000 beaver were taken and 3 700 dams blown up in reaction to these complaints.

Long-Range Goals

Population Goal

1) Maintain the breeding population at about present levels.

User Goals

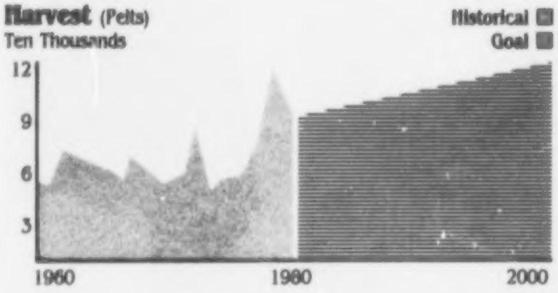
1) Aim for annual provincial harvests of 125 000 beaver.
2) Decrease landowner-beaver conflicts. Achieving these goals will require increased efficiency of trapper harvests on both private and public lands, for example:
   a) government assisted surveys, quotas and rotational trapping systems; and improve the quality of pelts;
   b) promotion of perforated culverts and greater harvests in landowner-beaver conflict areas.

Habitat Goal

1) Maintain habitat capable of supporting the population and user goals.

Data Sources

Historical data on fur production and average pelt prices were taken from Statistics Canada's annual reports on "Fur Production" (Catalogue 23-207). Divisional records supplied the remaining information. Fur prices are winter-long average prices paid by major fur auctions while number of pelts is derived from export permits for royalties, fur sales, etc.



Overview and History

Fisher are presently relatively abundant in Alberta, although current trapper harvests are high. The fisher population was greatly reduced by overtrapping during the nineteenth century. A season closure from 1938 to 1955 allowed some recovery of the population. Increased harvests resulted when trapping began again in the fiscal year 1955/56, however, harvests remained below 1 000 pelts until the fiscal year 1971/72.

Current Supply and Use

Current supply is unknown but harvests increased dramatically during the 1970s averaging around 3 000 pelts and returning about $350 000 to the trappers. The increase in harvests is considered to reflect a cyclic peak in the population plus tremendous trapping pressure. Fisher are now taking the trapping pressure that lynx took in the decline of the 1970s.

Long-Range Goals

Population Goals

1) Maintain populations so fur harvests can be sustained.
2) Re-establish populations in traditional ranges currently vacant.

User Goal

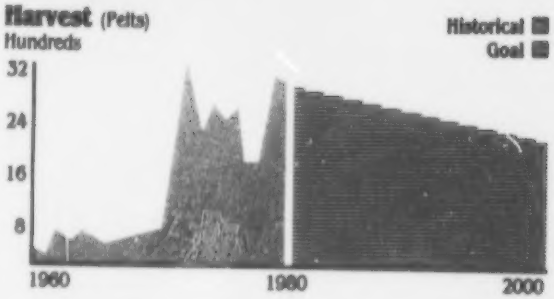
1) Reduce harvests to an average of about 2 200 annually. This is estimated to be the sustainable yield over a 10-year cycle.

Habitat Goal

1) Maintain current habitat.

Data Sources

Historical data on fur production and average pelt prices were taken from Statistics Canada's annual reports on "Fur Production" (Catalogue 23-207). Divisional records supplied the remaining information. Fur prices are winter-long average prices paid by major fur auctions while number of pelts is derived from export permits for royalties, fur sales, etc.



Overview and History

Marten numbers are not known in Alberta, although the bulk of the population is known to occur in the Eastern Slopes region. Marten largely rely on old-growth spruce-dominated forests.

Harvests averaged around 3 000 pelts annually in the early 1920s; dropped in the 1930s; remained under 1 000 pelts in the 1940s and 1950s; steadily increased in the 1960s; averaged around 3 000 pelts in the fiscal years 1973/74 to 1977/78 period; rose three-fold to over 9 000 pelts in 1979/80; and slipped back to 8 000 in the fiscal year 1980/81. They appear to have been overharvested in the 1920s and to have recovered through careful management. They now face a new threat of decreasing habitat in the Eastern Slopes as old-growth spruce-dominated forests are cut for timber.

Current Supply and Use

The current supply is unknown but harvests of about 9 500 (1979/80) to 8 000 (1980/81) bring a return of about $300 000 to Alberta trappers.

Long-Range Goals

Population Goals

1) Maintain populations so fur harvests can be sustained at current levels.
2) Re-establish populations in currently vacant ranges.

User Goal

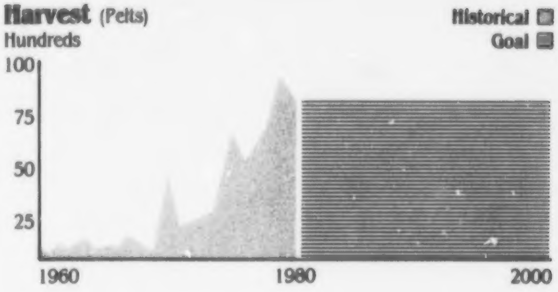
1) Monitor harvest trends.

Habitat Goal

1) Maintain current habitat.

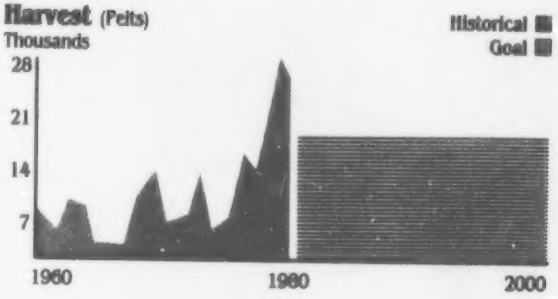
Data Sources

Historical data on fur production and average pelt prices were taken from Statistics Canada's annual reports on "Fur Production" (Catalogue 23-207). Divisional records supplied the remaining information. Fur prices are winter-long average prices paid by major fur auctions while number of pelts is derived from export permits for royalties, fur sales, etc.



Overview and History

Mink are predominately a creature of the coniferous forest region. They are most abundant along the borders of streams, ponds and lakes. Wild mink harvests have generally fluctuated between 4 000 to 20 000 pelts in the last 20 years with harvests of 27 000 to 28 000 recorded in the last few years.



Current Supply and Use

About 28 300 pelts were sold in 1979/80 resulting in about $930 000 revenue to trappers.

Long-Range Goals

Population Goal

1) Maintain populations capable of sustaining an average harvest of 20 000 annually.

User Goal

1) Maintain average harvest levels around 20 000 pelts.

Habitat Goal

1) Maintain current habitat.

Data Sources

Historical data on fur production and average pelt prices were taken from Statistics Canada's annual reports on "Fur Production" (Catalogue 23-207). Divisional records supplied the remaining information. Fur prices are winter-long average prices paid by major fur auctions while number of pelts is derived from export permits for royalties, fur sales, etc.

Overview and History

Muskrats occur throughout the province but are most abundant in the parklands and the boreal northlands. This pattern reflects the distribution of their habitat since they inhabit weedy lakes, ponds, sloughs, marshes and sluggish streams.

Muskrat production ranged between 200 000 and 800 000 pelts annually in the 1920 to 1960 period, and between 130 000 and 460 000 pelts annually since 1960. These reduced harvests probably reflect changes in the dollar value of the pelt and a transfer in trappers efforts to other species such as beaver in the 1960s and long-haired furbearers in the 1970s. Muskrat numbers appear to have declined in recent years.

Muskrat was the most valuable single furbearing species in 21 of the 57 seasons between 1920/21 and 1977/78.

Current Supply and Use

Current populations are not accurately known. About 230 000 pelts were sold in 1979/80, returning more than $1 500 000 to Alberta trappers. Muskrat ranked fifth in dollar value of fur sold in 1979/80.

Long-Range Goals

Population Goal

1) Maintain populations capable of sustaining an annual harvest of 300 000 pelts.

User Goal

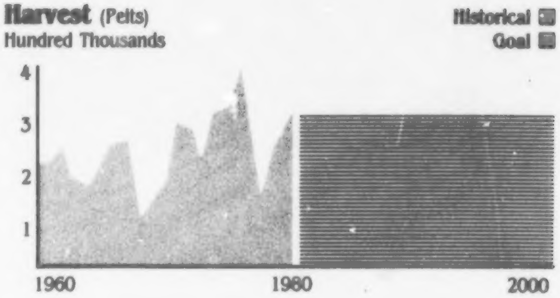
1) Increase annual harvests to 300 000 pelts.

Habitat Goal

1) Maintain enough habitat to support populations from which 300 000 muskrat can be harvested annually.

Data Sources

Historical data on fur production and average pelt prices were taken from Statistics Canada's annual reports on "Fur Production" (Catalogue 23-207). Divisional records supplied the remaining information. Fur prices are winter-long average prices paid by major fur auctions while number of pelts is derived from export permits for royalties, fur sales, etc.



Overview and History

River otter range is currently reduced to those areas immediately west and north of the parklands. Their habitat is similar to that of mink and beaver. Otters were never plentiful in Alberta. The annual harvest of river otter declined from 200 to 400 during the early 1920s to consistently fewer than 100 during the 1950s. The season was closed between 1961-1964. Harvests have been increasing steadily since 1964.

Current Supply and Use

About 80 per cent of the population is found in northeastern Alberta. Harvests of around 440 pelts returned nearly $28 000 to trappers in 1979/80. The river otter is also known for its playfulness so viewing could be a benefit, if animals were available. The otter is very vulnerable to industrial disturbance, because of its restricted distribution and habitat requirements.

Long-Range Goals

Population Goal

1) Determine desired population levels, while maintaining harvests of about 400 annually.

User Goal

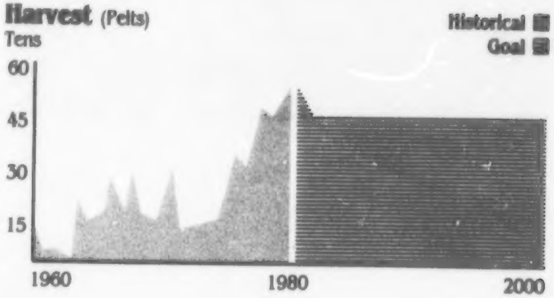
1) Determine appropriate harvest rates and implement improved management accordingly.

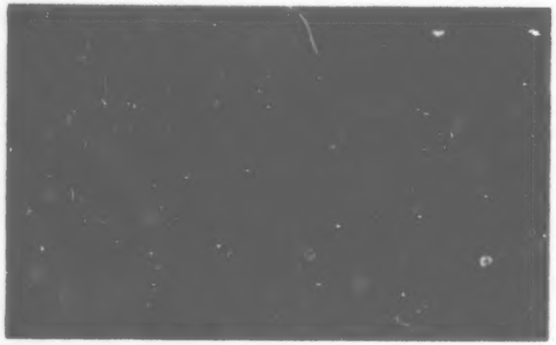
Habitat Goals

1) Determine and mitigate habitat changes.
2) Encourage re-establishment in currently vacant habitat.

Data Sources

Historical data on fur production and average pelt prices were taken from Statistics Canada's annual reports on "Fur Production" (Catalogue 23-207). Divisional records supplied the remaining information. Fur prices are winter-long average prices paid by major fur auctions while number of pelts is derived from export permits for royalties, fur sales, etc.





Overview and History

This report includes the varying hare, commonly called the snowshoe hare; the white-tailed prairie hare, commonly called the jackrabbit; and the Black Hills cottontail rabbit.

Prior to the mid-1940s, rabbit fur production fluctuated from 10 000 pelts to nearly 6 000 000 pelts at approximate 10-year intervals. These oscillations reflected fluctuations in the 10-year cycle of snowshoe hares. The fur industry then switched from snowshoe hare to jackrabbit and since Alberta has relatively few jackrabbits, harvests declined drastically and have remained low.

Current Supply and Use

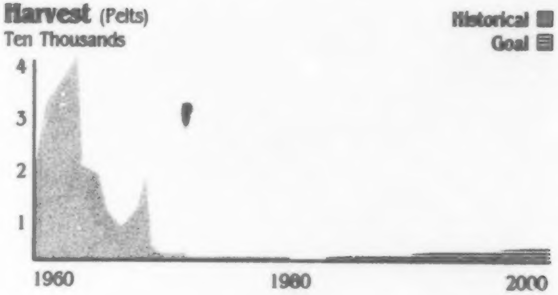
The total supply of jackrabbit is unknown but about 2 400 were sold as pelts in 1979/80. The estimated sustained yield harvest is more than 2 500 a year.

Long-Range Goals

1) Maintain current levels of harvest for jackrabbit and cottontial.
2) Stimulate increased recreational and subsistence harvests of snowshoe hare.
3) Maintain cottontail rabbits at current levels.

Data Sources

Historical data on fur production and average pelt prices were taken from Statistics Canada's annual reports on "Fur Production" (Catalogue 23-207). Divisional records supplied the remaining information. Fur prices are winter-long average prices paid by major fur auctions while number of pelts is derived from export permits for royalties, fur sales, etc.



Overview and History

Skunks are found throughout Alberta, especially in agricultural areas where agricultural development has provided good habitat. Skunks are most often found along wooded areas adjoining fields, sloughs, streambanks or irrigation ditches and may den under old houses and outbuildings. The number of skunks is mainly regulated by the severity of winter.

Skunks eat grubs, cutworms, ants, grasshoppers, mice and shrews, and have value as furbearers, but sometimes raid poultry houses and beehives. Skunks commonly form a reservoir for rabies. Skunks are removed in local areas following the diagnosis of a positive rabies case in skunks.

Current Supply and Use

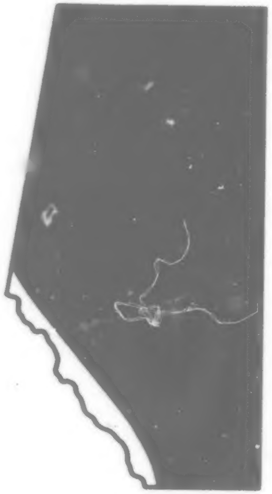
About 400 skunk pelts and 200 raccoon pelts were sold in 1979/80, returning about $2 000 to the sellers. Skunks could sustain greater harvests.

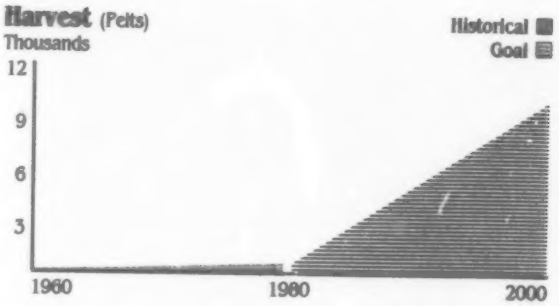
Long-Range Goals

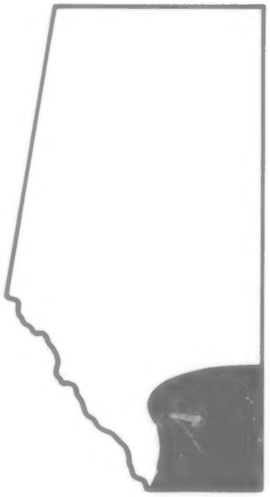
1) Stimulate the demand for, and therefore, the harvest of skunks. An estimated 10 000 a year could be harvested.
2) Continue with the rabies vector monitoring program conducted by Alberta Fish and Wildlife Division, Alberta Agriculture, and Agriculture Canada.

Data Sources

Historical data on fur production and average pelt prices were taken from Statistics Canada's annual reports on "Fur Production" (Catalogue 23-207). Divisional records supplied the remaining information. Fur prices are winter-long average prices paid by major fur auctions while number of pelts is derived from export permits for royalties, fur sales, etc.







Overview and History

Raccoons are recent immigrants from the U.S.A. They are most often found in southern Alberta along wooded areas adjoining fields, sloughs, streambanks or irrigation ditches and may den under old abandoned houses and out-buildings.

Current Supply and Use

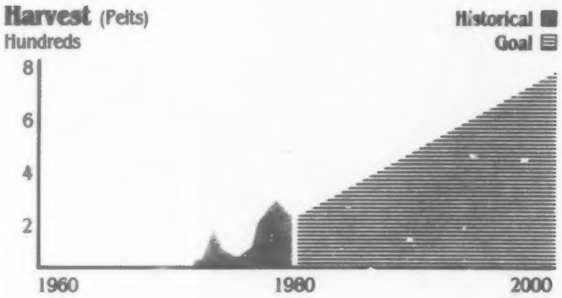
About 200 raccoon pelts were sold in 1979/80, returning about $8 000 to the sellers. Raccoons could sustain greater harvests.

Long-Range Goals

1) Increase harvest to 700 pelts annually.
2) Establish a population goal and a management strategy.

Data Sources

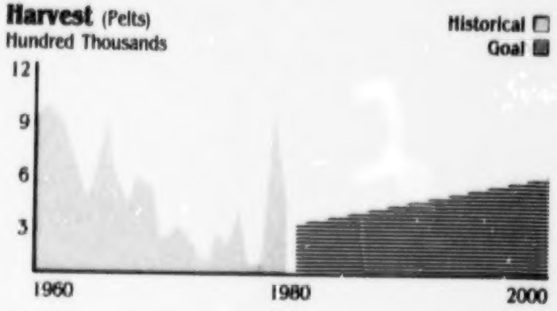
Historical data on fur production and average pelt prices were taken from Statistics Canada's annual reports on "Fur Production" (Catalogue 23-207). Divisional records supplied the remaining information. Fur prices are winter-long average prices paid by major fur auctions while number of pelts is derived from export permits for royalties, fur sales, etc.



Red Squirrel

Overview and History

Red squirrels are generally the most visible mammal in the mature coniferous forests of northern and western Alberta. They provide hours of viewing pleasure to many Albertans, and in addition provide trappers with a steady source of income. Between 1930 and about 1960 squirrel harvests were relatively high, often more than 1 000 000 pelts a year, but declined during the 1960s as beaver and later long-haired furbearers received more interest from trappers.



Current Supply and Use

About 1 400 000 squirrel pelts were sold in the fiscal year 1979/80 and returned about $2 300 000 revenue to Albertans. Red squirrel is the staple fur of the industry and has generally been among the top five furs in total money returned.

Long-Range Goals

1) Maintain habitat capable of sustaining current populations.
2) Increase average harvest to 500 000 annually.

Data Sources

Historical data on fur production and average pelt prices were taken from Statistics Canada's annual reports on "Fur Production" (Catalogue 23-207). Divisional records supplied the remaining information. Fur prices are winter-long average prices paid by major fur auctions while number of pelts is derived from export permits for royalties, fur sales, etc.

Other Mammals

Overview

The following is simply a list of some other mammals which are known to inhabit Alberta. They are grouped on the basis of where they are estimated to occur in greatest numbers in Alberta.

Long-Range Goals

1) To establish, in cooperation with other agencies and groups, reporting systems to determine distribution and population trends.

Prairie Species
Richardson ground squirrel (gopher), Montana kangaroo rat, prairie harvest mouse, Audubon grasshopper mouse, badland's white-footed mouse, pallid vole.

Parkland Species
Striped ground squirrel, Franklin ground squirrel, little upland vole, meadowvole, Saskatchewan jumping mouse, pocket gopher, little brown bat.

Foothill Species
Columbian ground squirrel, bushy-tailed woodrat, long-tailed vole, Alberta phenacomys vole, mountain water shrew.

Mountain Species
Hollister mantled ground squirrel, hoary marmot, pika, tawny lemming, least chipmunk.

Boreal Northland Species
Canada woodchuck, little northern chipmunk, buff-bellied chipmunk, rufous-tailed chipmunk, flying squirrel.

Boreal white-footed mouse, red backed vole, Mackenzie phenacomys vole, chestnut-cheeked vole.

Porcupine.

Common cinereous shrew, American saddleback shrew, dusky mountain shrew, American pygmy shrew.

Pale big brown bat.

Lemming vole, Hudson Bay jumping mouse.

Data Source

Soper, J.D., *The Mammals of Alberta* (Edmonton: Queen's Printer, 1964), pp. 410

Birds

Overview and History

Mallard are probably the most widely distributed duck species in Alberta. The best mallard-producing areas in Alberta are wetlands and potholes in the agricultural areas of the province.

Mallard numbers have decreased by about 40 per cent since the 1950s, mainly due to a loss of nesting habitat. This, combined with more hunters, translates into fewer mallards per hunter per season: from about 10 in the early 1970s to about 6 in the early 1980s.

Current Supply and Use

In the 1970s the breeding population of mallards in Alberta varied from 2 800 000 in wet years to fewer than 1 500 000 in dry years. Corresponding fall flights varied from an average of 5 000 000 in the early 1970s to an average of 3 000 000 in the late 1970s. Harvests averaged 525 000 birds between 1968-80. About 80 000 waterfowl hunters spend about 400 000 days harvesting these and other waterfowl.

Viewing use of all ducks, including mallards, is relatively high. Ducks were listed as number 9 in the like-to-see category and number 13 in the like-to-see-more-of category in a 1976 survey.

Long-Range Goals

Population Goal

1) Produce a provincial fall flight of 3.5 million mallards composed of 2.48 million from southern Alberta and 1.02 million from northern Alberta.

User Goals

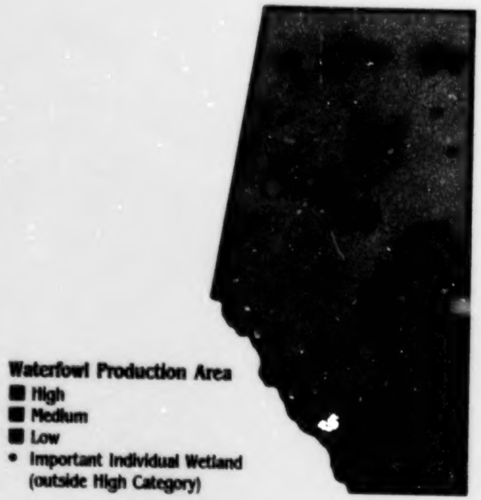
1) Maintain an average harvest of 7.0 mallards per hunter per season, projecting 102 000 hunters requiring a harvest of 714 000 mallards by the year 2000.
2) Continue with waterfowl damage prevention and compensation programs to farmers. These currently include:
   a) Pre-season shooting permits.
   b) Damage compensation through the Wildlife Damage Fund.
   c) Crop damage control program e.g. lure crops.

Habitat Goals

1) Maintain the 1969-78 average quantity and distribution of permanent and semi-permanent wetlands in southern Alberta (south of 55°), with emphasis on those providing over-water nesting and brooding habitat.
2) Provide for 2 900 000 acres of high quality nesting habitat in southern Alberta and 1 300 000 acres in northern Alberta in association with permanent and semi-permanent wetlands. (Providing habitat for mallards provides a surplus of habitat for other ducks, however the reverse is not true.)

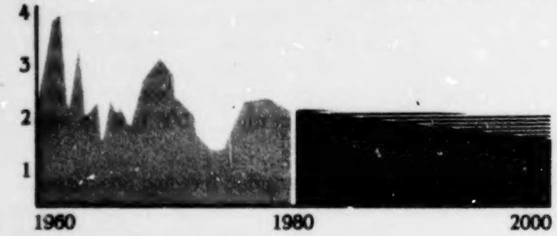
Data Sources

Population estimates were derived from an annual (May) cooperative U.S. Fish and Wildlife Service, Canadian Wildlife Service and provincial Fish and Wildlife Division breeding survey, corrected for visability bias by ground crews and supplemented by an annual U.S. Fish and Wildlife Service aerial survey in July. Harvest and recreation estimates were based on the Canadian Wildlife Service annual national surveys while the number of hunters was based on licence sales. Habitat was estimated by Divisional personnel.

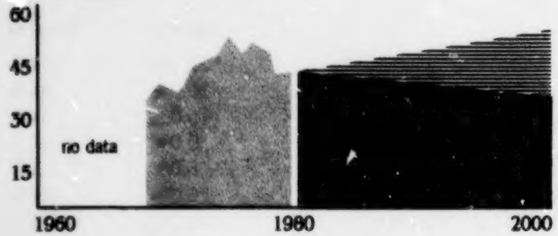


Population (Spring Breeding)
Millions

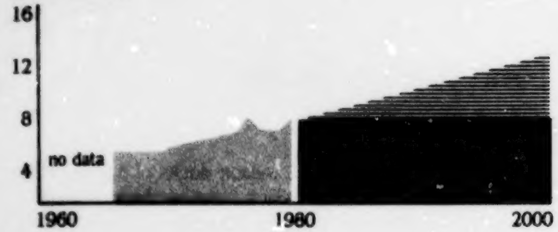
Historical ▨ Goal ▤
Estimated ■ Prediction ■



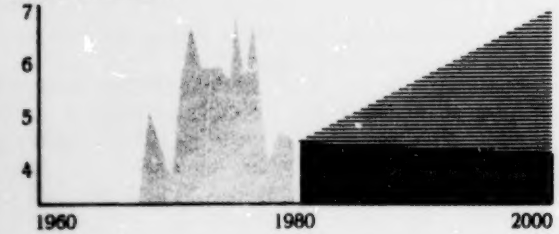
Recreation Days (Hunting)
Ten Thousands



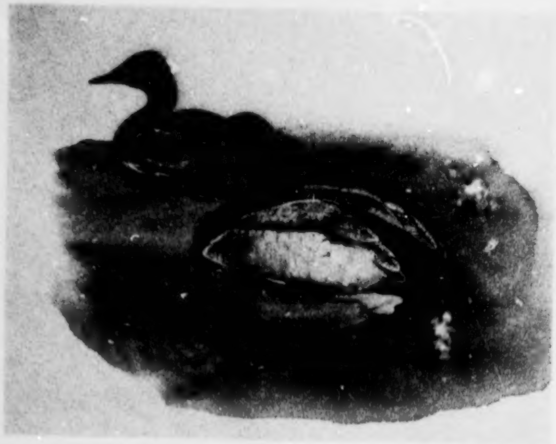
Users (Hunters)
Ten Thousands



Harvest
Hundred Thousands



Ducks (Other)



Overview and History

This report includes the following:

Dabblers: pintail, American widgeon, blue-winged teal, green-winged teal, gadwall and shoveller.

Divers: canvasback, redhead, lesser scaup, ring-necked, bufflehead, goldeneye, and ruddy.

Dabblers are puddle ducks or surface feeders while divers feed in deeper waters.

The major waterfowl production areas are wetlands and potholes in the agricultural zone where 60 to 80 per cent of Alberta's spring duck population is enumerated in most years. Therefore the number of ducks available in the fall depends to a large degree on the number and the quality of the wetlands in the central and southern part of the province.

The total May duck population in Alberta decreased by about 15 per cent during the 1970s despite the very good early 1970s. The decrease in provincial production, combined with more hunters, has resulted in fewer ducks per hunter a season, from about five to three.

Current Supply and Use

There were about 6 300 000 ducks (excluding mallards) in the annual spring breeding population in the late 1970s in Alberta, resulting in about 13 000 000 gathering for the provincial fall flight. From this population, some 80 000 waterfowl hunters harvested nearly 175 000 birds in more than 400 000 recreation days.

The average southern Alberta spring breeding population (in percentage of total ducks) and the average retrieved harvest (in percentage of total ducks) for Alberta during 1971-1980 show the contribution of each species to this production and harvest.

	Spring	Harvest
Mallard	22.0%	68.0%
Pintail	20.0%	8.0%
Blue-winged teal	15.0%	3.0%
Scaup	9.0%	2.0%
Shoveller	8.0%	3.0%
Gadwall	6.0%	6.0%
American-widgeon	6.0%	5.0%
Green-winged teal	5.0%	2.5%
Redhead	3.0%	1.0%
Canvasback	2.0%	0.5%
Others	—	1.0%

Long-Range Goals

Population Goal

1) Produce a fall flight of 6.0 million ducks of species other than mallards, with 3.5 million from southern Alberta and 2.5 million from northern Alberta.

User Goals

1) Increase the number of recreation days by about 30 per cent for both viewers and hunters.
2) Encourage a harvest shift to species other than mallards.
3) Attain an average harvest of 5 ducks per hunter a season (excluding mallards), projecting 102 000 hunters requiring 510 000 ducks by the year 2000.
4) Continue with waterfowl damage prevention and compensation programs to farmers.

Habitat Goals

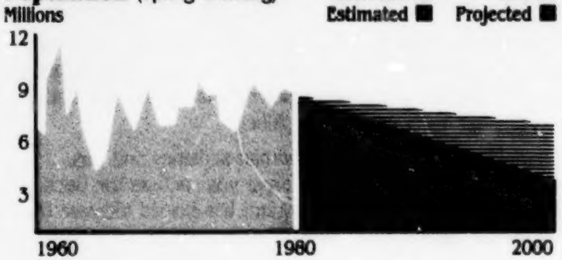
1) Maintain the average (1969-1978) quantity and distribution of permanent or semi-permanent wetlands with emphasis on those providing over-water nesting and brooding habitat in southern Alberta.
2) Provide for 1 168 000 hectares (2 883 000 acres) of high quality duck nesting habitat in southern Alberta and 506 000 hectares (1 249 000 acres) in northern Alberta, within 0.4 kilometres (0.25 miles) of permanent or semi-permanent wetlands. (This habitat is required to produce the desired number of mallards, the limiting species.)

Achieving these goals will require a change of philosophy regarding the value of wetlands and positive programs to reverse the trend toward loss and/or degradation of waterfowl habitat. It will also require measures to alleviate crop/depredation and landowner-hunter problems.

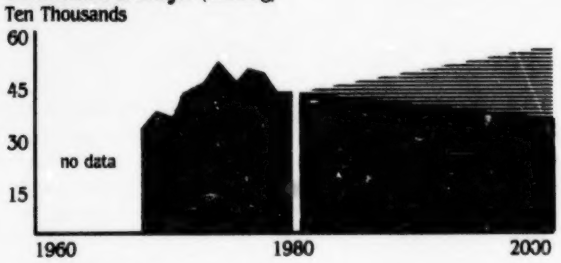
Data Sources

Population estimates were derived from an annual (May) cooperative U.S. Fish and Wildlife Service, Canadian Wildlife Service and provincial Fish and Wildlife Division breeding survey, corrected for visability bias by ground crews and supplemented by an annual U.S. Fish and Wildlife Service aerial survey in July. Harvest and recreation estimates were based on the Canadian Wildlife Service annual national surveys while the number of hunters was based on licence sales. Habitat was estimated by Divisional personnel.

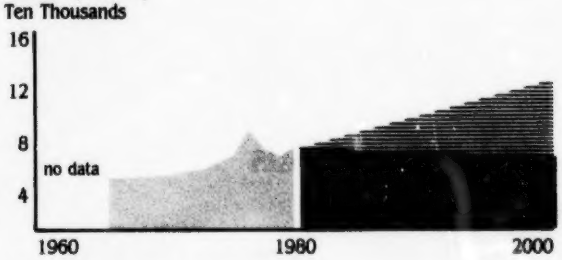
Population (Spring Breeding)



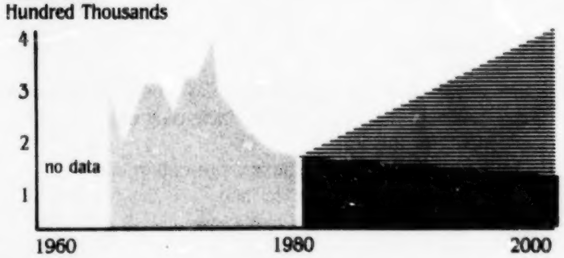
Recreation Days (Hunting)



Users (Hunters)



Harvest



Large Canada Geese
(Alberta Nesting)

Overview and History

The large Canada goose is the only goose which normally nests in Alberta. Prime nesting areas for large Canada geese are the islands in irrigation reservoirs, lakes, sloughs and rivers in southern and central Alberta.

Large Canada geese tolerate human activities and this, combined with some positive programs such as the Buck for Wildlife Goose Nesting Program, has helped increase the number of large Canada geese nesting in Alberta.

Albertans have experienced a significant increase in the harvest of large Canada geese in the last 20 years.

Current Supply and Use

About 100 000 geese were harvested annually in Alberta in the last few years. Nearly 50 per cent or 50 000 would be large Canada geese, of which 40 000 would be produced in Alberta and 10 000 would be moult migrants. On this basis, Alberta provides habitat for about 46 000 breeding pairs of large Canada geese each spring. The natural breeding habitat preferred by large Canada geese in Alberta appears to be saturated.

About 80 000 waterfowl hunters spend more than 400 000 days harvesting Canada geese and other waterfowl. Geese were also listed as number seven in the like-to-see category in a 1976 survey.

Long-Range Goals

Population Goal

1) Increase by 30 000 the number of breeding pairs of large Canada geese.

User Goals

1) Increase the number of recreation days, both for viewing and hunting, in concert with an increasing and expanding population.
2) Continue with waterfowl damage prevention and compensation programs to farmers.

Habitat Goals

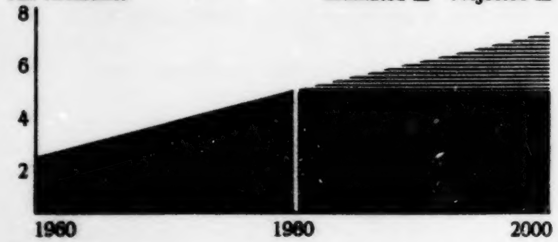
1) Maintain the current nesting habitat. Nest sites consist of large and small islands, peninsulas, muskrat houses, beaver lodges, dikes and causeways, cliff ledges, abandoned birds-of-prey nests, haystacks, poles, platforms and flax bales.
2) Attempt to increase nesting opportunities for an additional 30 000 breeding pairs.

Data Sources

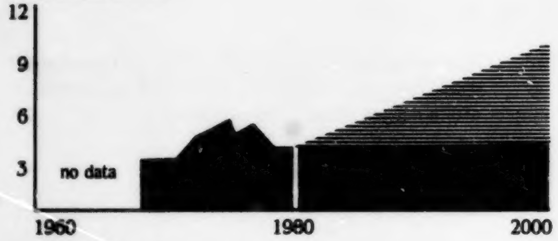
Population estimates were derived from annual provincial pair and brood surveys. Harvest and recreation estimates were obtained from the Canadian Wildlife Service annual national surveys while the number of hunters was recorded through licence sales.

Waterfowl

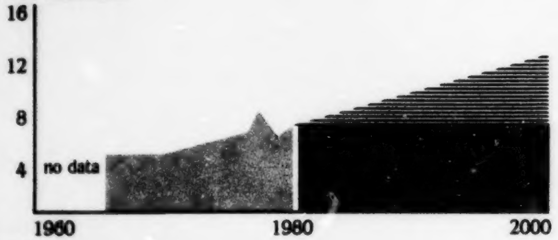
Population (Breeding Pairs)
Ten Thousands



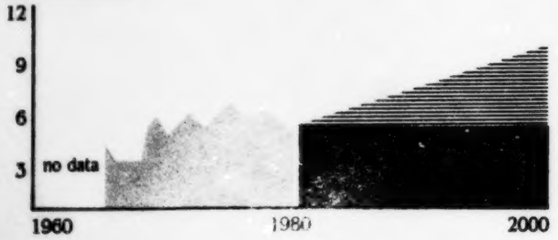
Recreation Days (Hunting)
Hundred Thousands



Users (Hunters)
Ten Thousands



Harvest (All Geese)
Ten Thousands



Arctic Nesting Geese

Overview and History

Arctic-nesting geese which migrate through Alberta twice yearly include lesser Canada, white-fronted, lesser snow and Ross. Prime staging (gathering) areas for these geese are found in east-central Alberta (Hanna area), the Hay-Zama area, the Peace-Athabasca delta and some agricultural areas in the Peace River country.

The total number moving south through Alberta every fall depends upon the year's breeding success, largely governed by weather conditions during the short Arctic spring and summer. The availability of northern migrants to Alberta hunters in the fall depends not only on the numbers moving into the province but upon the duration of their stay. The length of their annual stopover during migration is related to the amount and quality of staging habitat which includes food, suitable large wetlands and some sanctuaries.

Current Supply and Use

An average of more than 100 000 geese are taken each year in Alberta by 80 000 waterfowl hunters who spend over 400 000 days hunting. From 40 000 to 60 000 of the province's annual goose harvest are Arctic migrants.

Major staging areas

Long-Range Goals

Population Goal

The goals (Flyway Management Plans - Preliminary Draft), developed jointly by wildlife management agencies in the relevant provinces, states and the two federal governments, call for maintaining the following populations: white-fronted, a three-year moving average of 200 000 to 300 000 in the March survey; lesser Canada, a three-year moving average of at least 150 000 in January; lesser snow, spring breeding populations of 100 000 pair in the western Arctic; Ross, maintain a three-year moving average of 100 000 in the post-season population.

User Goals

1) Maintain an average provincial harvest of 50 000 to 70 000 arctic geese.
2) Continue with waterfowl damage prevention and compensation programs to farmers.

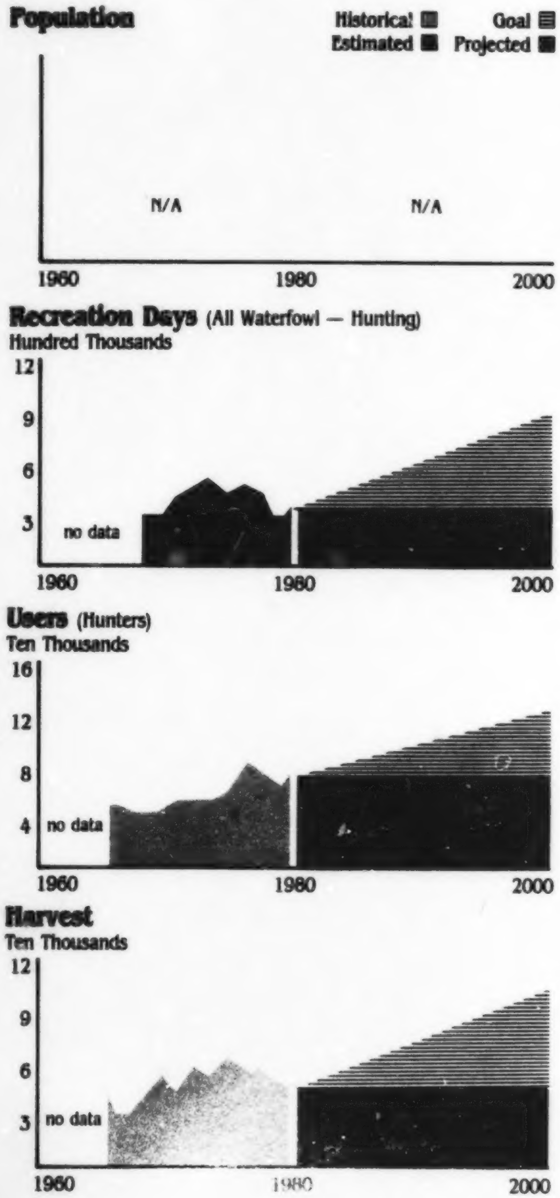
Habitat Goal

1) Maintain the quality and quantity (1968-1980 levels) of those areas which are known to be especially important to migrating arctic geese.

Data Sources

Harvest and recreation estimates were based on Canadian Wildlife Service annual surveys. The number of waterfowl hunters was recorded through licence sales.

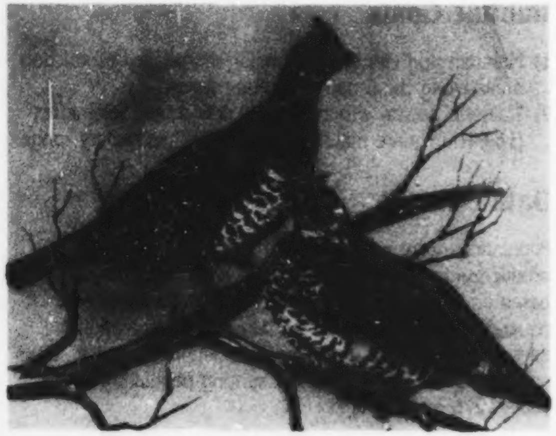
Waterfowl



Population
Historical
Goal
Estimated
Projected
N/A
N/A
1960
1980
2000
Recreation Days (All Waterfowl — Hunting)
Hundred Thousands
12
9
6
3
no data
1960
1980
2000
Users (Hunters)
Ten Thousands
16
12
8
4
no data
1960
1980
2000
Harvest
Ten Thousands
12
9
6
3
no data
1960
1980
2000

[illegible]

Ruffed Grouse



Overview and History

Ruffed grouse are a native upland bird widespread throughout the forested regions of Alberta. They are most numerous in aspen-dominated and mixed wood forests.

The number of ruffed grouse fluctuates in an eight to ten year cycle. Fall populations have varied from a low of 1 000 000 birds at the bottom of the cycle to a high of 5 000 000 at the top of the cycle. Hunting success also follows the cycle, and lows of 25 000 birds bagged have been recorded in the 1950s to highs of more than 300 000 in the late 1970s.

Current Supply and Use

Up to 70 per cent of the fall population dies off naturally every year (winter, predators, etc.). It is estimated that hunters have never succeeded in harvesting more than five to 10 per cent of the fall population.

Long-Range Goals

Population Goal

1) Maintain an average spring-breeding population of 700 000 birds.

User Goals

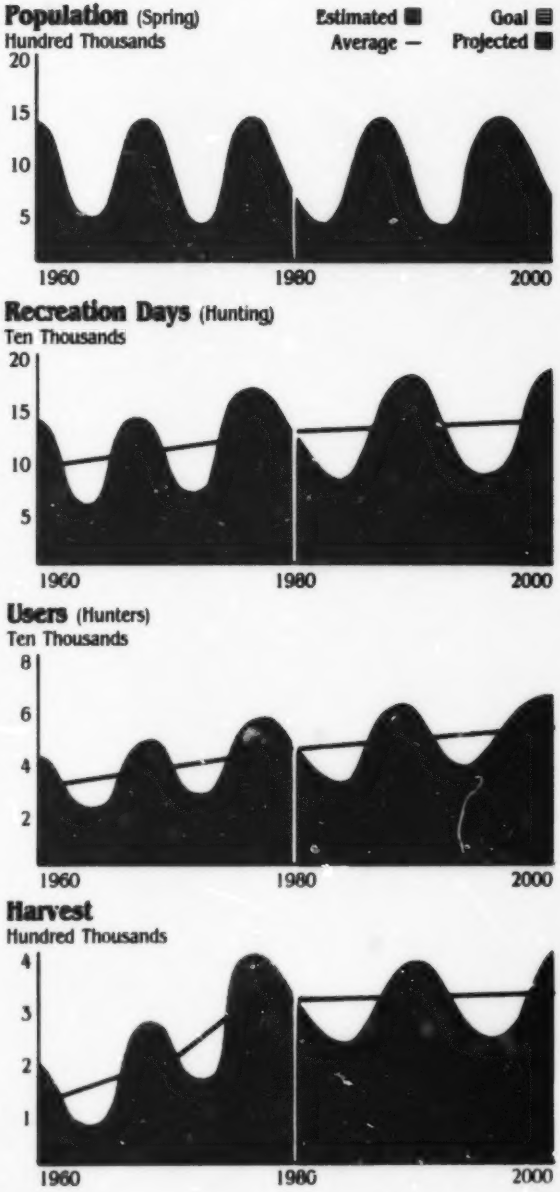
1) Encourage greater harvest, especially during peak years.
2) Encourage and support increases in viewing opportunities.

Habitat Goal

1) Maintain habitat within 490 000 square kilometres (189 000 square miles) of range.

Data Sources

Populations were estimated on the basis of average production per available habitat. Average production was based on Divisional and University studies of selected representative areas.



Sharp-Tailed Grouse

Overview and History

Sharp-tailed grouse are a native upland game bird occurring throughout the province. They are most abundant in the southeastern parkland, and parts of the prairie and the Peace River areas.

Sharp-tail numbers have followed changes in land-use practices. Population decreases in southern parkland and prairie habitats are due to intensive grazing and clean farming practices. In the north the sharp-tail cycle, normally controlled by the snowshoe hare-predator cycle, has been affected by agricultural clearing practices. These practices provide a short period of more productive habitat for sharp-tail followed by reduced habitat suitability when the land is brought into full cultivation.

Current Supply and Use

The current supply is estimated at 200 000 birds in the spring and 600 000 in the fall. The 400 000 (67 per cent) bird difference is due to overwinter mortality. About 20 000 hunters bag about 60 000 birds or 10 per cent of the estimated fall population annually in about 16 000 recreation days.

Viewing is localized and concentrated on the dancing grounds during the spring courtship/dancing period.

Long-Range Goals

Population Goal

1) Maintain a spring breeding population of about 200 000 birds and a fall population of about 600 000 birds. Achieving this goal will depend on increasing production and survival in the parklands and prairies.

User Goals

1) Increase viewing recreation days.
2) Encourage greater harvests of sharp-tails.

Habitat Goals

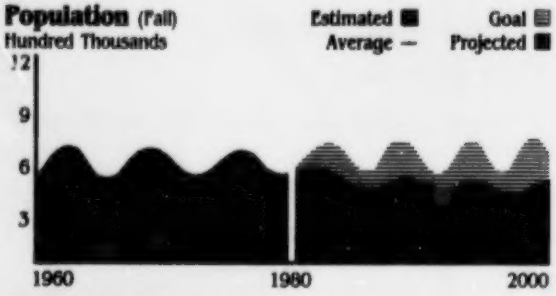
1) Maintain and enhance the major sharp-tailed production areas along the fringe agriculture areas.
2) Maintain habitat within the 420 000 square kilometres (162 100 square miles) of primary and secondary range.

Data Sources

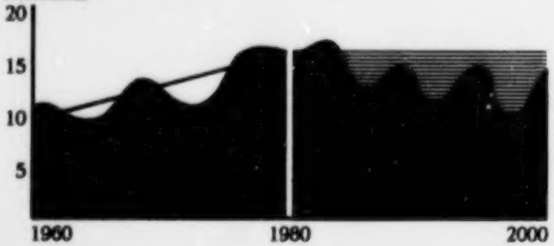
Populations were estimated on the basis of average production per available habitat. Average production was based on Divisional and University studies of selected representative areas. Hunters, harvest and recreation information was obtained from questionnaires sent to 10 per cent of the general season hunting population in the years 1976 and 1977.

Upland Birds: Native

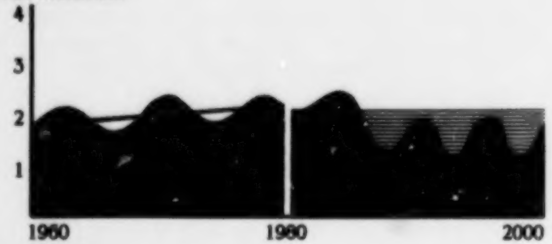
Population (Fall)
Hundred Thousands



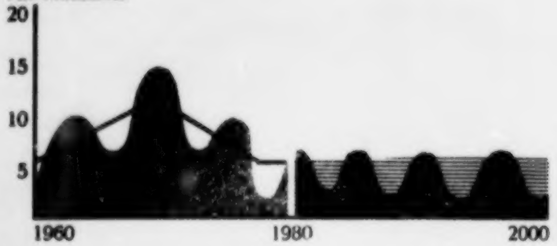
Recreation Days (Hunting)
Thousands



Users (Hunters)
Ten Thousands



Harvest
Ten Thousands



Spruce Grouse, Blue Grouse and Ptarmigan

■ Willow Ptarmigan
■ Blue Grouse and White-tailed Ptarmigan
■ Spruce Grouse

Overview and History

Spruce grouse, blue grouse and ptarmigan are native upland birds. Spruce grouse are restricted to coniferous forests, blue grouse and white-tailed ptarmigan to the Rocky Mountain regions. Willow ptarmigan are mainly winter visitors to northern Alberta.

Spruce grouse populations rise and fall in an eight- to 10-year cycle. Fall population estimates have ranged from 500 000 to 2 000 000 birds depending on the year, the highest years were 1968 and 1978.

Blue grouse and white-tailed ptarmigan populations have probably declined in the last 20 years as a result of the decline in the size of a wilderness land base on which they depend.

Current Supply and Use

1) **Spruce grouse:** current estimates are 200 000 birds in spring or 500 000 birds in the fall. An estimated 8 000 hunters spend about 8 000 recreation days harvesting about two birds each. Hunting has little effect on the population since about 60 per cent or 300 000 die naturally during winter.
2) **Blue grouse:** current estimates are around 10 000 birds in the fall. About 500 hunters harvest about 1 000 birds annually.
3) **White-tailed ptarmigan:** current estimates are around 10 000 birds in the fall. About 500 hunters harvest about 1 000 birds annually.
4) **Willow ptarmigan:** mainly winter visitors.

Viewing demand for all of these birds has not been identified but it is thought that Albertans expect to see them as part of the wilderness scene.

Long-Range Goals

Population Goal

1) Maintain current populations. Achieving this will depend on:
   a) **spruce grouse:** the amount of coniferous forest available;
   b) **blue grouse and white-tailed ptarmigan:** the amount of undisturbed wildland available.
   c) **willow ptarmigan:** the amount of suitable willow-muskeg complex in northeast Alberta.

User Goals

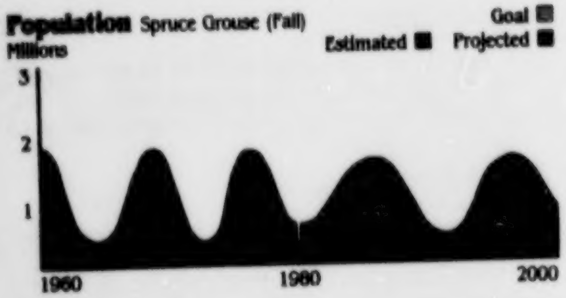
1) Support viewing use.
2) Maintain hunting opportunities.

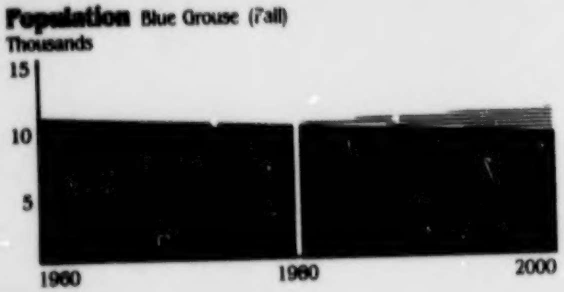
Habitat Goals

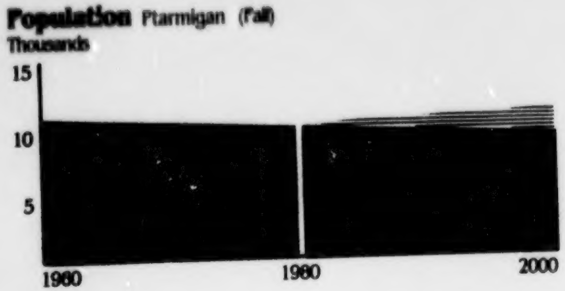
1) Maintain and improve habitat on the 270 000 square kilometres (104 200 square miles) of spruce grouse range.
2) Maintain and improve habitat on the 35 000 square kilometres (13 500 square miles) of blue grouse range.
3) Maintain and improve habitat on the 81 000 square kilometres (31 250 square miles) of white-tailed ptarmigan range.
4) Maintain habitat in northeast Alberta.

Data Sources

Populations were estimated on the basis of average production per available habitat. Average production was based on Divisional and University studies of selected representative areas. Hunters, harvest and recreation information were field personnel estimates.


Population Spruce Grouse (Fall)
Millions
Goal
Estimated
Projected
3
2
1
1960
1980
2000


Population Blue Grouse (Fall)
Thousands
15
10
5
1960
1980
2000


Population Ptarmigan (Fall)
Thousands
15
10
5
1960
1980
2000

Sage Grouse

Overview and History

Sage grouse, the largest of the native upland birds, are limited to the southeastern corner of Alberta. As their name implies, they require abundant stands of sagebrush which can only be found in shortgrass prairie.

Sage grouse populations have declined by about 20 per cent since the 1960s. Deterioration of suitable habitat resulting from vehicular disturbance and grazing, especially in moist areas, appears to be the cause.

Current Supply and Use

Current supply is estimated to be 3 000 birds in the spring and 5 000 in the fall. In the 1970s, about 3 000 to 5 000 hunters were allowed to harvest about 1 000 birds annually and spent about 2 700 days doing so. The demand exceeds the supply if one assumes that 5 000 hunters expect a 30 per cent hunter success rate.

Viewing of sage grouse during its courtship (dancing) period is also a desired use.

Long-Range Goals

Population Goal

1) Maintain a spring breeding population of 3 000 birds.

User Goals

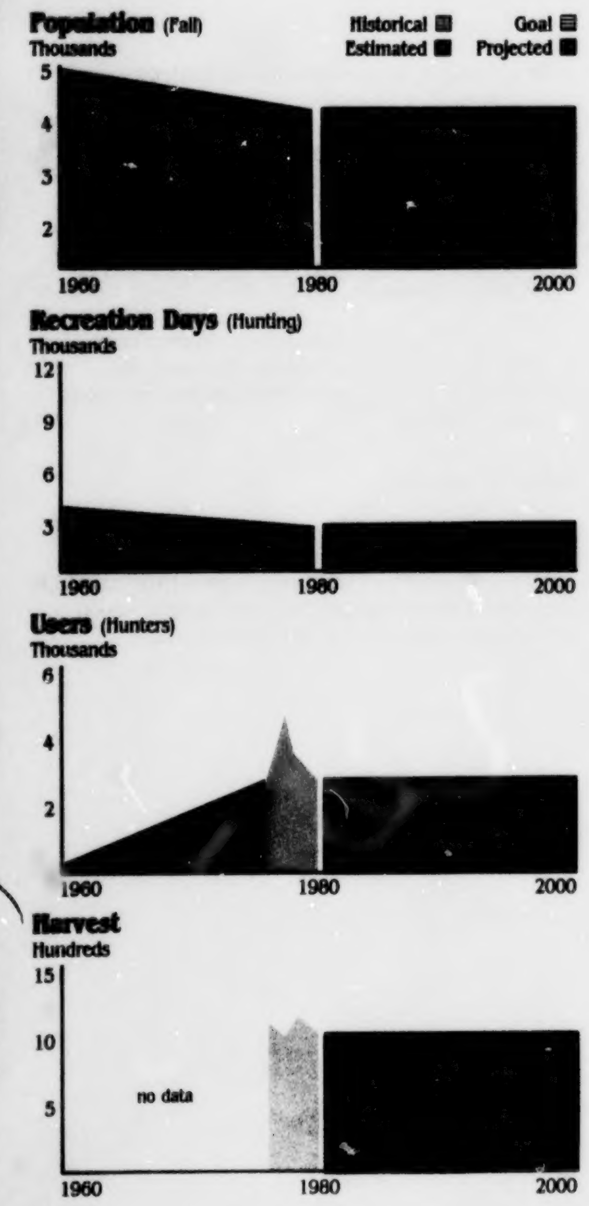
1) Increase the number of recreation days as long as this does not disturb the birds.
2) Maintain hunting opportunity.

Habitat Goals

1) Protect and enhance habitat within the current range of 9 300 square kilometres (3 590 square miles).
2) Encourage beneficial land use practices on current range.

Data Sources

Sage grouse populations are based on ground counts by field personnel. The number of hunters, annual harvest, days spent hunting, and the estimated amount of current range were determined by field personnel.


Population (Fall)
Thousands
Historical
Estimated
Goal
Projected
5
4
3
2
1960
1980
2000
Recreation Days (Hunting)
Thousands
12
9
6
3
1960
1980
2000
Users (Hunters)
Thousands
6
4
2
1960
1980
2000
Harvest
Hundreds
15
10
5
no data
1960
1980
2000

Ring-Necked Pheasant

Overview and History

Ring-necked pheasant were introduced to Alberta near Calgary in 1908. Subsequent introductions throughout most settled areas in the province resulted in some thriving populations, especially in the Camrose area and in southern irrigation districts.

Historically, pheasants were abundant from the early 1940s to the early 1960s and numbers peaked at about 1 500 000 birds in the 1960s. A gradual decline in numbers was accelerated around 1970/71 and continues to date. The main reason for this decline is the loss of habitat through reduction in marginal farmland: seepage areas, wetland, ditch banks, old farmsteads, high grassy areas.

Current Supply and Use

Current fall population is estimated at 250 000 wild birds. In addition, more than 40 000 hatchery-reared birds were released and provided to cooperative programs (4-H, etc.) in 1980. About 25 000 hunters enjoy about 37 500 recreation days while bagging about 55 000 pheasants. Natural overwinter losses are extensive; about 66 per cent of the fall population does not survive till spring.

Pheasants are a popular viewing bird and were listed as number 10 in the like-to-see category and number seven in the like-to-see-more-of category in the 1976 survey.

Long-Range Goals

Population Goals

1) Maintain the current number of 250 000 wild pheasants. However, if present trends toward clean farming and upgrading of irrigation systems continue, the projected remaining habitat will only support a natural population of 40 000 to 50 000 birds by the year 2000. Therefore, achieving the goal of 250 000 birds depends on retention or development of marginal farmland as wildlife habitat. This will require programs beneficial to the landowner.
2) Meet part of the user demand by increasing the number of hatchery-reared pheasants.

User Goals

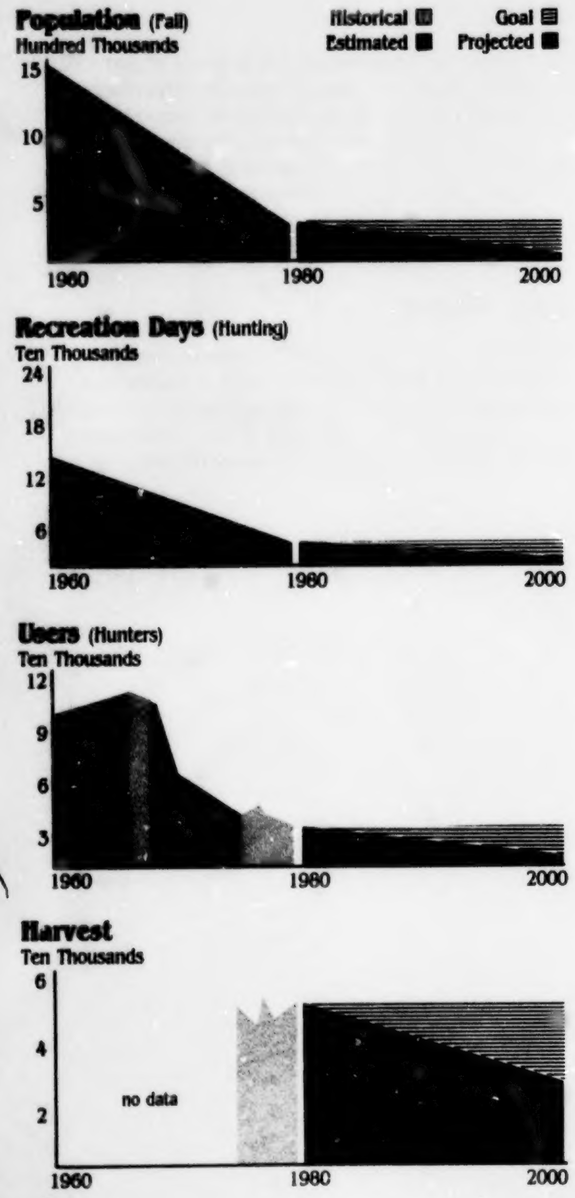
1) Promote better hunter-landowner relationships.
2) Increase viewing opportunities, particularly near urban centres.
3) Increase hunting opportunities.

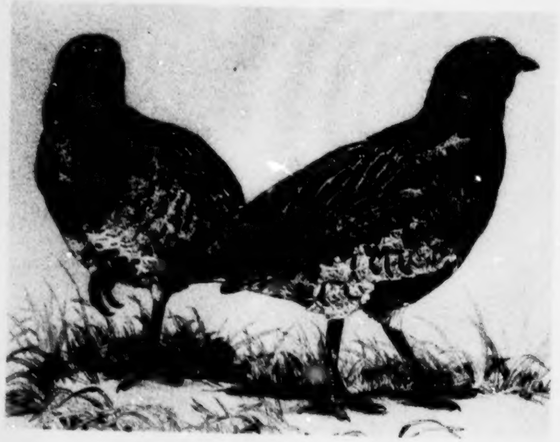
Habitat Goals

1) Promote the retention of pheasant habitat through programs mutually beneficial to the landowner and other users.
2) Maintain and enhance habitat on the current range of about 153 000 square kilometres. Pheasants are common on about 20 per cent of this land and scarce on 80 per cent.

Data Sources

Populations were estimated on the basis of average production per available habitat. Hunters, harvest and recreation information was obtained from a 1976 and 1977 questionnaire sent to 10 per cent of the general season hunting population and from Divisional records.


Population (Fall)
Hundred Thousands
Historical
Estimated
Goal
Projected
15
10
5
1960
1980
2000
Recreation Days (Hunting)
Ten Thousands
24
18
12
6
1960
1980
2000
Users (Hunters)
Ten Thousands
12
9
6
3
1960
1980
2000
Harvest
Ten Thousands
6
4
2
no data
1960
1980
2000



Overview and History

Gray partridge were introduced to Alberta in 1908 when 70 pair were imported and released near Midnapore. They survived well in agricultural settings and increased where croplands were mixed with small patches of woody cover and grasslands. Highest numbers were recorded in the 1950s and 1960s when hunters annually harvested about 120 000 and 100 000 birds respectively. Numbers have declined since then as patches of woody cover and grassland disappeared.

Current Supply and Use

The estimated spring breeding population is 150 000 to 200 000 birds with fall populations varying from 300 000 to 800 000 birds. About 35 000 hunters enjoy about 49 000 recreation days hunting gray partridge. It is believed the hunter harvest has never exceeded 20 per cent of the fall population. The greatest annual loss is caused by Alberta's severe winters which normally eliminates about 70 per cent of the fall population.

Long-Range Goals

Population Goal

1) Increase current supply to about 500 000 birds (Fall). Since most partridge habitat is on private land this will require programs mutually beneficial to the landowner and other users.

User Goal

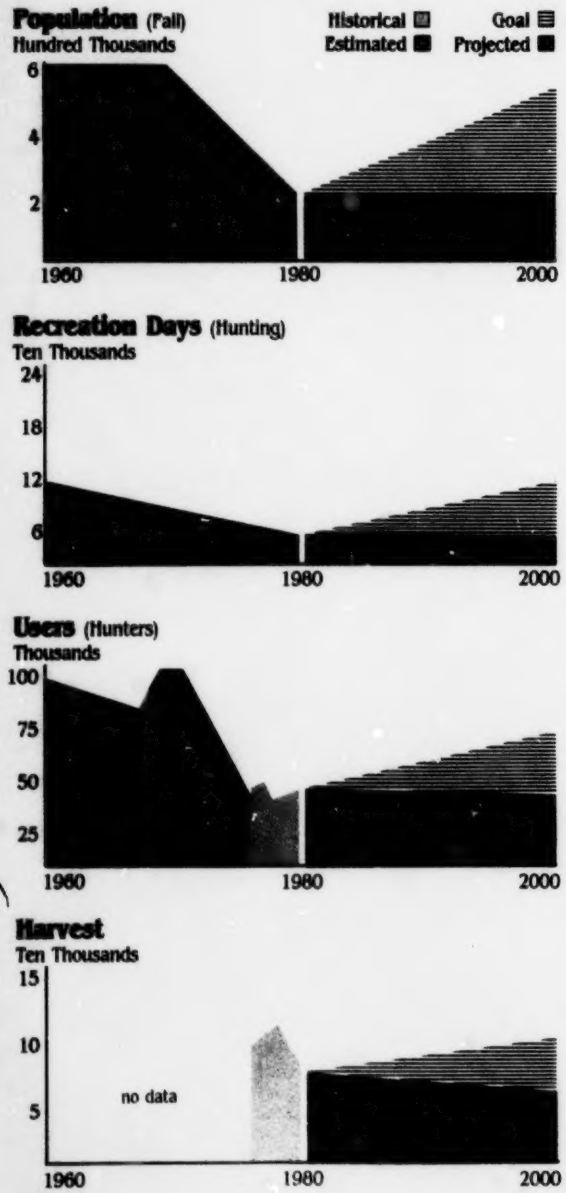
1) Maintain harvests and recreational hunting days.

Habitat Goals

1) Promote the retention and enhancement of partridge habitat, mainly marginal farmland and shelterbelts, through such programs as landowner cooperative programs, and raise-and-release programs.
2) Maintain and enhance habitat on the current range of about 225 000 square kilometres (86 850 square miles). Partridge are common on about 40 per cent of this range and scarce on the remaining 60 per cent.

Data Sources

Populations were estimated on the basis of average production per available habitat. Hunters, harvest and recreation information was obtained from a 1976 and 1977 questionnaire sent to 10 per cent of the general season hunting population and from Divisional records.


Population (Fall)
Hundred Thousands
Historical
Estimated
Goal
Projected
6
4
2
1960
1980
2000
Recreation Days (Hunting)
Ten Thousands
24
18
12
6
1960
1980
2000
Users (Hunters)
Thousands
100
75
50
25
1960
1980
2000
Harvest
Ten Thousands
15
10
5
no data
1960
1980
2000

Wild Turkey

Overview and History

Attempts to establish wild turkeys in Alberta were largely unsuccessful prior to 1973. In March 1973, 13 wild-trapped and 75 hatchery-raised Merriam's wild turkey were released in the Porcupine Hills. Subsequently, 25 birds were seen in 1973/74, 72 in 1974/75, 100 in 1975/76 and 120 in 1976/77. Wild turkey are also currently present in the Cypress Hills where approximately 150 to 175 birds have recently been observed. The turkeys are dependent upon livestock feed near farmsteads for emergency food during adverse winter weather.

Current Supply and Use

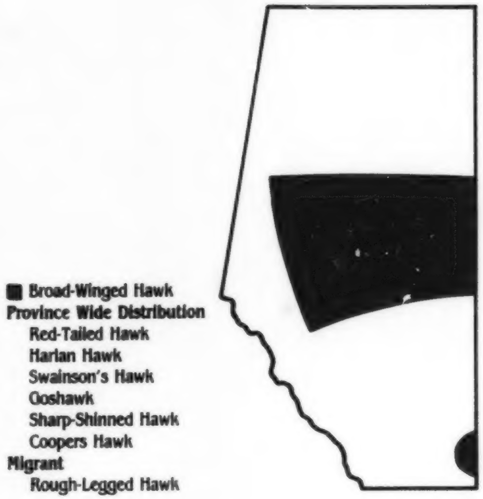
The current supply is estimated at 350 birds.

Long-Range Goals

1) Increase the population so wild turkeys can become a harvestable game bird in Alberta. This will require special programs.

Data Sources

Turkey numbers are based on ground counts by Divisional personnel.



Overview and Status

Hawks

Goshawk: Status, stable but exact population is unknown. Found in forested and foothills regions.

Sharp-Shinned hawk: Status, unknown. A forest dwelling species rarely found in the prairie zone.

Cooper's hawk: Status, unknown. Found in forested regions and rarely found in the prairies. The northern limit of its range is unknown.

Red-Tailed hawk: Status, common but exact population is unknown.

Broad-Winged hawk: Status, unknown. Population may be stable. Seldom seen due to its restriction to heavily-forested northern region.

Swainson's hawk: Status, common but exact population is unknown. Probably found throughout the province, most common in prairie and aspen parkland regions.

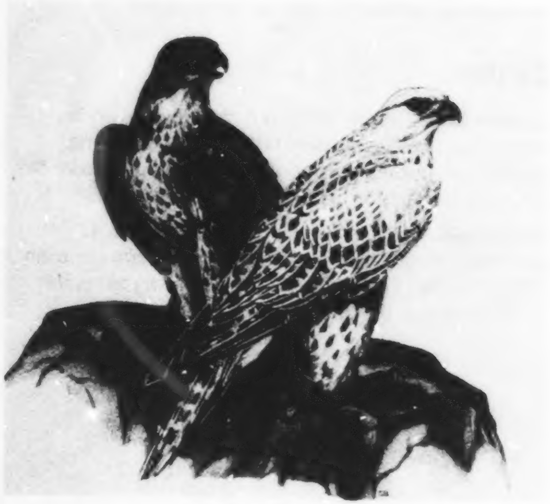
Rough-Legged hawk: Status, migrant. Seen only in the spring and fall.

Ferruginous hawk: (See Special Status page.)

Eagles

Golden eagle: Status, stable but exact population is unknown. Usually associated with river systems, and making use of cliffs or large trees for nesting. To date has not been greatly affected by human expansion.

Bald eagle: Status, stable but exact population is unknown. Always nests near water as fish form the main part of its diet. Population may be expanding along the river systems of the prairie zone.



Harriers

Marsh hawk: Status, common but exact population is unknown. Abundant in the prairie and aspen parkland regions as well as being found throughout cultivated areas in the province. Prefers areas of short native vegetation and cultivation.

Ospreys

Osprey: Status, unknown. Even more dependent on water and fish than the bald eagle. An active hunter of live fish.

Vultures

Turkey vulture: Status, uncommon. Alberta is the northern limit of its range although it nests in the southern prairie zone. Has been sighted on the North Saskatchewan River.

Falcons

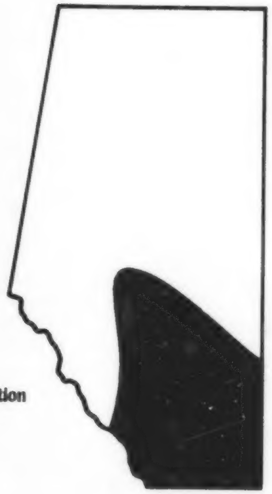
Gyrfalcon: Status, migrant; winter resident. It breeds in the Arctic, is a fall and spring migrant, occasionally wintering in Alberta. Feeds primarily on birds in the aspen parkland and prairie regions.

Prairie falcon: Status, common but exact population is unknown. The population appears to be healthy along the river systems of the prairie zone. Its range extends along these systems into the aspen parkland and foothills/mountain zone.

Peregrine falcon: (See Special Status page.)

Merlin: Status, stable but exact population is unknown. Most commonly found in the prairie and aspen parkland regions and found as year round residents in larger cities. The population is being monitored for pesticide levels.

American kestrel: Status, common but exact population is unknown. Found throughout its range wherever there are wooded areas, it also makes use of cliffs along river systems for breeding.



Owls

Great-Horned owl: Status, common but exact population is unknown. Resident year-round. Found throughout the province.

Snowy owl: Status, winter resident. Nests in the Northwest Territories and migrates to Alberta or southward for winter. Population fluctuates with the lemming population.

Hawk owl: Status, stable but exact population is unknown. Nests in all forested areas of the province.

Pygmy owl: Status, uncommon. Usually found in coniferous mountain forests.

Burrowing owl: (See Special Status page.)

Barred owl: Status, unknown. Sparsely distributed throughout its Alberta range.

Great gray owl: (See Special Status page.)

Long-Eared owl: Status, stable but exact population is unknown. Northern limit not known. Nests in wooded areas.

Short-Eared Owl: Status, common but exact population is unknown. Found throughout province except for the extreme mountainous areas. Favors grassland or marsh areas.

Boreal owl: Status, unknown. Found in all zones except the prairie. Dependent on woodpeckers for nesting holes in coniferous and mixed wood forests.

Saw whet owl: Status, unknown. Woodland owl of the mixed wood forests in the north and deciduous groves of the aspen parkland and prairie river valleys.

Long-Range Goals

1) Establish, in cooperation with other agencies and groups, reporting systems to determine distribution and population levels and trends.

Data Sources

The information was compiled by the fur and non-game unit of the Fish and Wildlife Division and was derived from input by many knowledgeable private citizens, specialists in wildlife and land management agencies, and personnel from several colleges and universities.

Great Blue Heron

Overview and History

Great blue herons, not being very common in Alberta, are given special attention. Alberta's great blue herons nest in about 74 active colonies, of which about 50 are located on lakes and 24 near rivers. The nesting colonies are scattered throughout the prairie, and throughout the parkland and southern boreal forests. This range has not changed greatly over the last century but the number and size of breeding colonies has diminished.

Current Supply and Use

The most recent survey information indicates a total provincial population of about 1 500 breeding pairs. The size of a colony can range from one pair of birds to more than 100, but the average is about 20 nesting pairs per colony.

Long-Range Goals

Population Goal

1) To maintain the active breeding population of 1 500.

User Goal

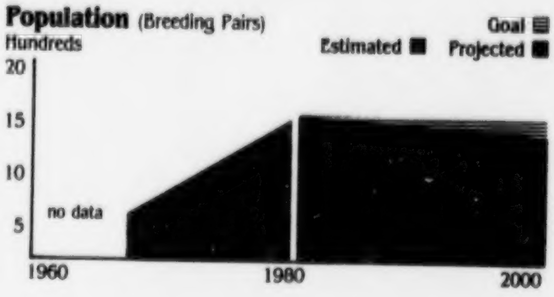
1) Increase viewing opportunities if these do not disturb the birds.

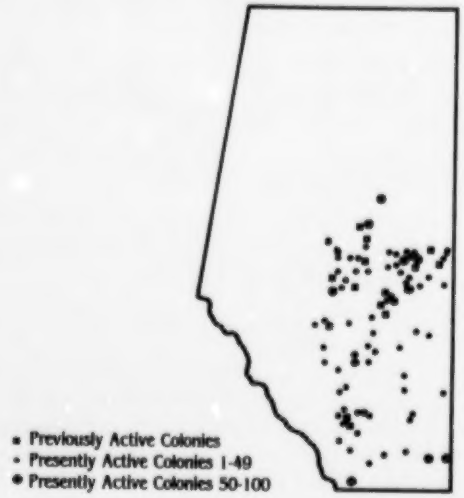
Habitat Goal

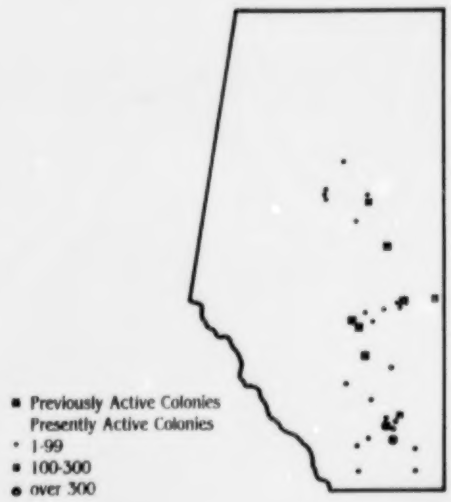
1) Maintain current breeding habitat.

Data Sources

Historical data, collected by various naturalists, was supplemented in 1967-69 by Canadian Wildlife Service biologists. The Alberta Fish and Wildlife Division has carried out extensive surveys since that time.







Overview and History

Double-crested cormorants are given special attention in Alberta. The birds are colonial nesters, nesting in flooded trees along the shoreline or on islands in lakes. Over 60 per cent of the breeding population currently nests in irrigation reservoirs.

Although at least six colonies are known to have been abandoned in Alberta prior to 1980, there has been a dramatic increase in both the number and size of cormorant colonies in the past 13 years.

Current Supply and Use

The current supply is estimated at about 2 300 breeding pairs scattered in about 30 active colonies.

Long-Range Goals

Population Goal

1) Maintain the current supply, while evaluating desirable population levels.

User Goal

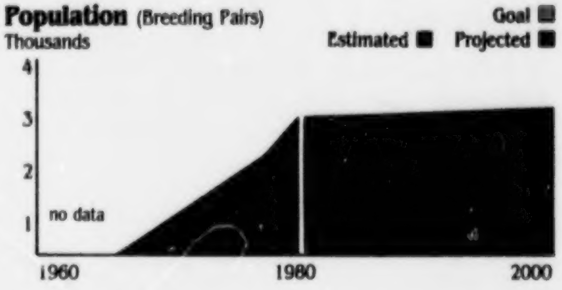
1) Clarify the benefit to Albertans.

Habitat Goal

1) Maintain the current supply of habitat.

Data Sources

Historical data, collected by various naturalists, was supplemented in 1967-69 by Canadian Wildlife Service biologists and since 1975 by surveys conducted cooperatively by the Alberta Fish and Wildlife Division and the Provincial Museum.



Other Birds

Overview

The following is simply a list of some other birds known to inhabit Alberta. They are grouped on the basis of where they occur in largest numbers in Alberta and include migrants as well as residents.

Long-Range Goals

1) Establish, in cooperation with other agencies and groups, reporting systems to determine distribution and population trends.

Prairie Species

Shorebirds:
Black-crowned night heron, long-billed curlew, willet, American avocet, upland plover, marbled godwit, and Wilson's phalarope.

Others:
Black-headed grosbeak, indigo bunting, American goldfinch, rufous-sided towheed, lark bunting, savannah sparrow, grasshopper sparrow, Baird's sparrow, vesper sparrow, lark sparrow, Brewer's sparrow, McCown's longspur, chestnut-collared longspur, and English sparrow.

Domestic pigeon, black-billed cuckoo, western kingbird, Say's phoebe, horned lark, rough-winged swallow, rock wren, brown thrasher, mountain bluebird, Sprague's pipit, starling, and yellow-breasted chat.

Bobolink, and western meadowlark.

Bullock's oriole, and Brewer's blackbird.

Parkland Species

Shorebirds/Wetlands:
Red-necked grebe, eared grebe, horned grebe, pied-billed grebe, yellow rail, piping plover, black tern, common tern, Forster's tern, American bittern, sora rail, coot, killdeer, bank swallow, cliff swallow, red-winged blackbird, yellow-headed blackbird, white-winged scoter, California gull, Franklin's gull, and ring-billed gull.

Others:
Mourning dove, ruby-throated hummingbird, yellow-shafted flicker, red-shafter flicker, downy woodpecker, red-headed woodpecker, eastern kingbird, eastern phoebe, barn swallow, purple martin, black-billed magpie, common crow, black-capped chickadee, and white-breasted nuthatch.

House wren, catbirds, robin, veery, loggerhead shrike, red-eyed verio, chestnut-sided warbler, Baltimore oriole, common grackle, brown-headed cowbirds, common red poll, clay-colored sparrow, song sparrow, and snow bunting.

Foothill/Mountain Species

Foothills:
Golden-crowned kinglet, Audubon's warbler, myrtle warbler, MacGillivray's warbler, and Wilson's warbler.

Mountains:
Black swift, rufous hummingbird, calliope hummingbird, Lewis's woodpecker, Hammond's flycatcher, dusky flycatcher, western flycatcher, violet-green swallow, Steller's jay, Clarke's nutcracker, mountain chickadee, dipper, varied thrush, Townsend's solitaire, Townsend's warbler, and water pipit.

Cassin's finch, golden-crowned sparrow, and pine grosbeak.

Boreal Northlands Species

Wetlands:
Common loon, western grebe, common merganser, and red-breasted merganser.

Herring gull, Bonaparte's gull, Caspian tern, and belted kingfisher.

Hooded merganser, sandhill crane, common snipe, spotted sandpiper, solitary sandpiper, greater yellow legs, dowicher, long-billed marsh wren, northern water thrush, Leconte's sparrow, Nelson's sparrow, and swamp sparrow.

Others:
Common night hawk.

Pileated woodpecker, yellow-bellied sapsucker, hairy woodpecker, black-capped three-toed woodpecker, and northern three-toed woodpecker.

Yellow-bellied flycatcher, Traillis flycatcher, least flycatcher, western wood peewee, olive-sided flycatcher, and tree swallow.

Canada jay, blue jay, and common raven.

Boreal chickadee, red-breasted nuthatch, brown creeper, winter wren, hermit thrush, Swainson's thrush, ruby-crown kinglet, bohemian waxwing, cedar waxwing, solitary verio, Philadelphia verio, and warbling verio.

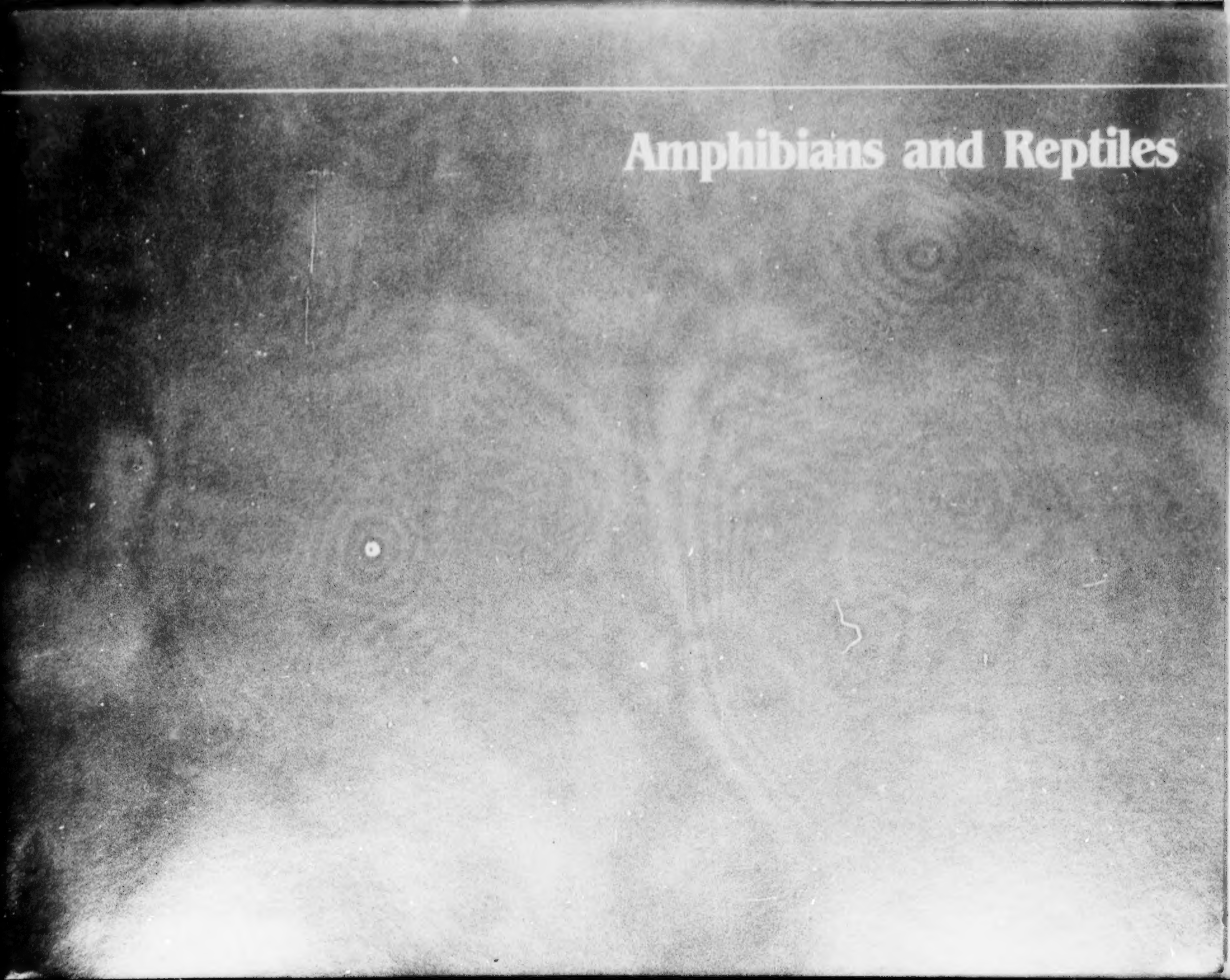
Black and white warbler, Tennessee warbler, orange-crowned warbler, yellow warbler, magnolia warbler, Cape May warbler, black-throated green warbler, bay-breasted warbler, black-poled warbler, palm warbler, Connecticut warbler, mourning warbler, and Canada warbler.

American redstart, rusty blackbird, western tanager, rose-breasted grosbeak, Lazuli bunting, evening grosbeak, purple finch, pine siskin, and ovenbird.

Red crossbill, white-winged crossbill, slate-colored junco, chipping sparrow, white-crowned sparrow, white-throated sparrow, fox sparrow, and Lincoln sparrow.

Data Sources

Salt, W. Ray and Jim R. Salt, *The Birds of Alberta*, (Edmonton, Alberta: Hurtig Publisher, 1976).


Amphibians and Reptiles

Overview and History

Alberta has 10 species of amphibians (salamanders, frogs, toads) and eight species of reptiles (turtles, lizards, snakes). Amphibians benefit humans by preying on pests such as flies and mosquitoes, while reptiles destroy insects, mice, and gophers. The status designations are preliminary, as prepared for consideration by the Alberta Committee on Rare and Endangered Species.

Current Supply

Salamanders:

a) **Long-Toed salamander.** Status: Rare. Known only from a small number of disjunct populations.

b) **Tiger salamander.** Status: Common from Edmonton south and east but uncommon to the north. It spawns in both natural and man-made bodies of water (borrow pits, dugouts, etc.).

Frogs:

a) **Northern Leopard frog.** Status: Since 1978 this species has greatly declined in numbers and is not present over much of its former range in south central Alberta.

b) **Spotted frog.** Status: Known from more than 20 localities along the Eastern Slopes of the Rockies where it occurs in and along ponds, lakes and streams; it is the least abundant of the ranid frogs in Alberta.

c) **Wood frog.** Status: Alberta's most abundant frog, it is found throughout most of Alberta excluding the prairie region of the southeast. The most widely distributed amphibian in North America, it occurs further north than any other North American amphibian.

d) **Boreal Chorus frog.** Status: Abundant. Found throughout the province wherever suitable spawning sites, (usually temporary) ponds and sloughs are found.

Toads:

a) **Canadian toad.** Status: Widespread and abundant. This species has declined in numbers but is still present throughout its known range in Alberta.

b) **Western toad (Boreal toad).** Status: The second most abundant and widely distributed toad in Alberta.

c) **Great Plains toad.** Status: Occurs only in the southeastern corner of the province as far north as Sounding Lake. It is common throughout its known range in Alberta, decreasing in abundance in the northern and western portions.

d) **Plains Spadefoot toad.** Status: Locally abundant in southeastern Alberta and occurring as far north as Dillberry Lake.

Turtles:

a) **Western Painted turtle.** Status: Endangered. The only natural breeding populations known within Alberta are located in the lower Milk River Canyon.

Lizards:

a) **Eastern Short-Horned lizard.** Status: Threatened. This species is known from only a small number of localities in southeastern Alberta.

Snakes:

a) **Bull snake.** Status: Locally abundant in southeastern Alberta.

b) **Hognose snake.** Status: Endangered. Known in southeastern Alberta, this is the rarest of all reptiles in Alberta.

c) **Plains garter snake.** Status: Abundant. It is the most abundant species south and east of Edmonton.

d) **Red-Sided garter snake.** Status: Abundant. It is the most abundent species northward and west of the fourth meridian.

e) **Wandering garter snake.** Status: Common along the water courses and coulees in southern Alberta, some locations in the foothills and mountains, and along the Peace River.

f) **Prairie rattlesnake.** Status: Locally abundant in southeastern Alberta.

Long-Range Goals

1) Determine distribution and population status, in cooperation with other agencies and groups.
2) Ensure that viable populations are maintained.

Data Sources

All amphibian and reptile information was provided by W. Roberts, Vertebrate Museum, Department of Zoology, University of Alberta, Edmonton, Alberta.

[1] Information provided by W. Roberts, University of Alberta.

Acknowledgements

Many individuals and organizations contributed to the preparation of this document. In addition to the constructive response received from various individuals during the period that the document was made available for public review, considerable input was also received from a variety of sources including: members of the Fish and Wildlife Advisory Council; members of the Legislative Assembly; representatives of professional organizations; individuals from special interest groups; other government departments and professional resource management staff of the Fish and Wildlife Division.

This document represents the culmination of all their efforts and special thanks are expressed to all who contributed.

Overall coordination and synthesis of the material represented in this document was achieved through a Status Review Committee comprised of the following individuals:

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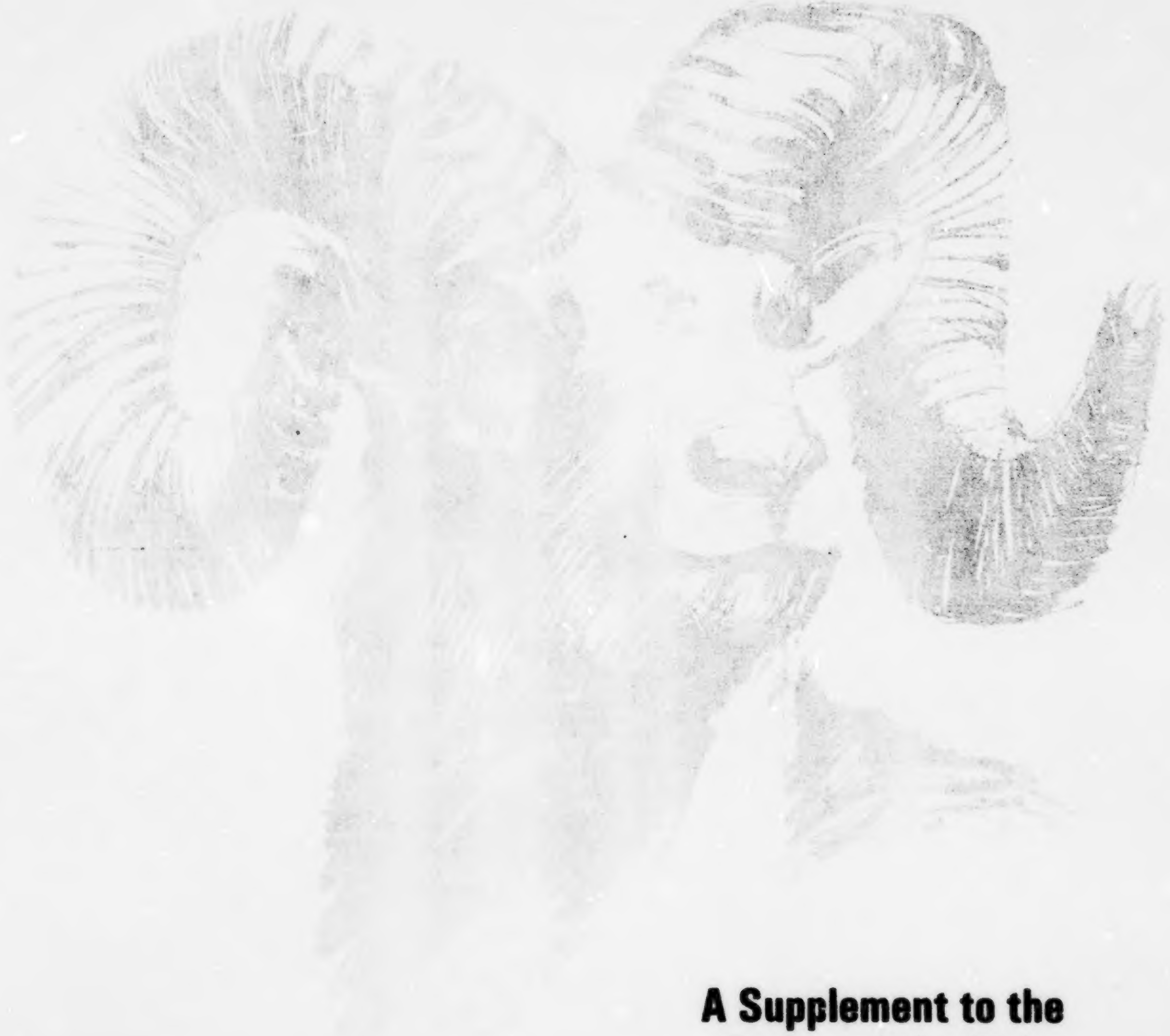
Fish and Wildlife Contributions to the Alberta Economy



A Supplement to the Status of the Fish and Wildlife Resource in Alberta (1984)

Alberta Fish & Wildlife
YOUR PARTNER IN CONSERVATION

Alberta
ENERGY AND NATURAL RESOURCES
Fish and Wildlife Division

FISH AND WILDLIFE CONTRIBUTIONS TO THE ALBERTA ECONOMY

AS REPORTED IN THE STATUS REPORT, THE VALUE OF FISH AND WILDLIFE TO ALBERTANS EXTENDS BEYOND MONETARY CONSIDERATIONS. HOWEVER, ECONOMIC CONSIDERATIONS ARE ALSO PART OF THIS VALUE. THREE WAYS IN WHICH THE ALBERTA ECONOMY BENEFITS ECONOMICALLY FROM THE PRESENCE OF FISH AND WILDLIFE IN THIS PROVINCE ARE SUMMARIZED IN THIS REPORT. THE BENEFITS ARE EXPRESSED IN DOLLARS OR JOBS. THESE THREE WAYS ARE:

(1) BENEFITS FROM SUBSISTENCE USE

THE MARKET VALUE OF THE MEAT HARVESTED BY TREATY INDIANS AND OTHER SUBSISTENCE USERS, WHO HAVE THE HISTORICAL OR LEGAL RIGHT TO GATHER FOOD ON UNOCCUPIED CROWN LANDS AND ON OTHER LANDS TO WHICH THEY HAVE ACCESS, IS ESTIMATED AT $8 MILLION ANNUALLY. THIS IS BASED ON AN ESTIMATED HARVEST OF 500,000 KG OF FISH AND 6,000 MOOSE ANNUALLY.

(2) BENEFITS FROM COMMERCIAL USE

A TOTAL OF 12,766 COMMERCIAL LICENCES WERE PURCHASED BY ALBERTANS IN THE FISCAL YEAR 1983/84. APPROXIMATELY 80% OF LICENCES SOLD INVOLVED THE LICENCE HOLDER IN CATCHING, RAISING, OR MARKETING FISH AND/OR WILDLIFE. THE REMAINING 20% WAS COMMERCIAL ACTIVITIES BASED ON RECREATIONAL ACTIVITIES, E.G. TAXIDERMY.

THE NUMBER OF LICENCES SOLD CANNOT BE TRANSLATED DIRECTLY INTO THE NUMBER OF FULL-TIME JOBS CREATED AS AN INDIVIDUAL MAY HOLD MORE THAN ONE LICENCE. FOR EXAMPLE, AN INDIVIDUAL MAY BE A COMMERCIAL FISHERMAN, A GUIDE OR A TRAPPER, DEPENDING ON THE SEASON.

(3) Benefits From Recreational Use

Residents, non-resident Canadians, and non-resident aliens reported[1,2] spending a total of $860 million[3] annually on trips taken PRIMARILY to view, fish or hunt for fish and wildlife resources in Alberta. This money can be viewed as "tourist" money because a tourist is defined as any person travelling in excess of 80 km (50 mi.) from home on a trip for which at least one purpose is personal enjoyment. The average daily expenditure by Canadians in Alberta was $43 for viewing, $47 for fishing, and $72 for hunting (1980 dollars).

The secondary benefits of these expenditures, as the money circulates into associated business, generated over a billion dollars ($1,047,479,451) of economic activity and created 33,730 full-time jobs (man/years).[4] About 70% of these jobs were created in the retail sector through purchases of equipment used PRIMARILY for viewing, fishing or hunting wildlife. About 20% of the jobs were created in transportation and the remaining 10% in accommodation and food services.

CONCLUSION

THE SUBSISTENCE, COMMERCIAL AND RECREATIONAL USE OF FISH AND WILDLIFE PROVIDES SIGNIFICANT ECONOMIC BENEFITS TO THE PROVINCIAL ECONOMY, ESPECIALLY IF ONE CONSIDERS THAT:

1. THIS IS A RENEWABLE RESOURCE, CAPABLE OF GENERATING THIS ACTIVITY YEAR AFTER YEAR IF PROPERLY MANAGED, AND

2. MANY OF THE JOBS CREATED OR MONEY EARNED OR SPENT IS GENERATED IN AREAS WHERE FEW OTHER ECONOMIC OPPORTUNITIES EXIST.

3. AS THE RESULT OF DIRECT OR INDIRECT TAXES 50 CENTS OF EVERY DOLLAR SPENT ON FISH AND WILDLIFE-BASED RECREATION BECOMES GOVERNMENT REVENUE[5].

ENDNOTES

1. THE IMPORTANCE OF WILDLIFE TO CANADIANS. THE HIGHLIGHTS OF THE 1981 NATIONAL SURVEY. 1983. MINISTER OF SUPPLY AND SERVICES CANADA, OTTAWA,

2. THE SPORT FISHERY IN ALBERTA. FACTS AND FIGURES FOR 1975 AND 1980. 1982. ALBERTA ENERGY AND NATURAL RESOURCES, FISH AND WILDLIFE DIVISION, EDMONTON. FISHERIES MANAGEMENT REPORT NO. 28.

3 1982 ALBERTA TRAVEL SURVEY. A NON-RESIDENT VISITOR STUDY, VOLUME 1, SUMMARY REPORT. 1982. ALBERTA TOURISM AND SMALL BUSINESS, EDMONTON.

1980 FIGURES INFLATED TO 1982 DOLLARS FOR CANADIANS. EXPENDITURES BY NON-CANADIAN VISITORS WAS CALCULATED TO BE A MINIMUM ADDITIONAL $20 MILLION, MAKING A TOTAL EXPENDITURE OF ABOUT $860 MILLION. THE $20 MILLION EXPENDITURE FOR NON-CANADIANS IS VERY CONSERVATIVE AND IS BASED ONLY ON THOSE 10% OF VISITORS WHO FISH OR HUNT AND NOT ON THOSE COMING TO VIEW WILDLIFE, EVEN THOUGH A 1982 ALBERTA TOURISM AND SMALL BUSINESS STUDY REPORTED THAT THREE-QUARTERS OF NON-CANADIAN VACATIONERS WERE "...PARTICULARLY IMPRESSED WITH ALBERTA'S UNSPOILED NATURAL BEAUTY, VARIETY OF INTERESTING SCENERY, QUIET RELAXATION AND TRANQUILITY".

4. ECONOMIC MULTIPLIERS FOR ALBERTA INDUSTRIES AND COMMODITIES. MARCH, 1984. ALBERTA BUREAU OF STATISTICS, ALBERTA TREASURY. EDMONTON.

5. MR. ANDRE JACQUEMOT. CANADIAN WILDLIFE SERVICE (PERS. COMM, DEC/84).